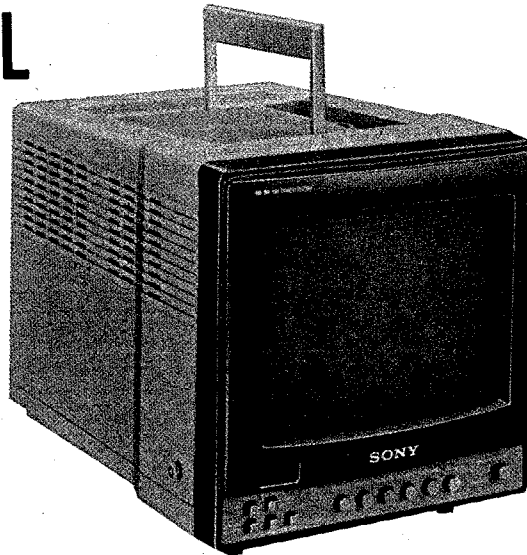


PVM-9020ME

SERVICE MANUAL

AEP Model

Chassis No. SCC-640A-A



May, 1985

SPECIFICATIONS

Color system PAL and SECAM systems, switched automatically
Picture tube Microblack Trinitron tube
Approx. 195 mm (9 inches)
(Approx. 221 mm picture measured diagonally) 70-degree deflection
Resolution 230 TV lines (B/W)
Color temperature 9300° K
Frequency response 4 MHz (−3 dB)
Horizontal linearity ± 8 %
Vertical linearity ± 8 %
Line pull range Horizontal ± 500 Hz
Vertical 8 Hz
Overscan of the picture 6 %
Underscan of the picture 5 %
H/V delay Horizontal: Approx. 1/4 line
Vertical: Approx. 1/2 line
Return loss 5 MHz, −30 dB (INPUT A, INPUT B)
Zooming Within 3 %
Convergence Central area 0.5 mm
Periphery 0.7 mm
Brightness More than 50 foot-lamberts

Inputs

VIDEO IN (INPUT A): BNC connector
VIDEO (INPUT B): BNC connector

Composite 1 V p-p ±6 dB, 75 ohms,
unbalanced, sync negative

AUDIO IN (INPUT A): minijack

AUDIO (INPUT B): minijack
−5 dBs, 47 kohms or more

Outputs

VIDEO OUT (INPUT A): BNC
connector

VIDEO (INPUT B): BNC connector
1 V p-p, 75 ohms, unbalanced, sync
negative

AUDIO OUT (INPUT A): minijack

AUDIO (INPUT B): minijack

Output level 0.8 W

TUNER connector

6-pin DIN connector

Pin No. 1: not in use

Pin No. 2: video input, composite

1 V p-p ±6 dB, 75 ohms, unbalanced,
sync negative

Pin No. 3: ground

Pin No. 4: audio input, −5 dBs,
47 kohms or more

Pin No. 5: power output

Pin No. 6: not in use

— Continued on next page —



TRINITRON®
COLOR VIDEO MONITOR
SONY®

PVM-9020ME

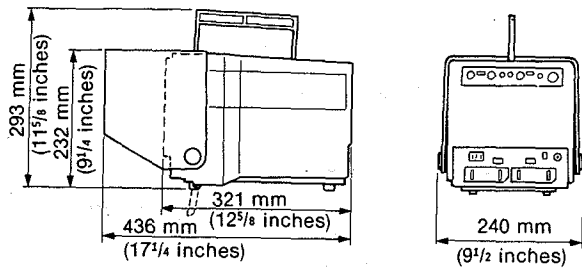
Power requirements

220/240 V ac, 50/60 Hz
12 V dc, with the optional Sony NP-1
battery pack or 12 V car battery
using the optional DCC-16AE car
battery cord

Power consumption

48 W ac
40 W dc

Dimensions



Weight Approx. 7.2 kg (15 lb 14 oz)
not incl. accessories

Accessories supplied
AC power cord (1)
Hood (1)

While the information given is true at the time of printing, small production changes in the course of our company's policy of improvement through research and design might not necessarily be indicated in the specifications. We would ask you to check with your appointed Sony dealer if clarification on any point is required.

OPTIONAL ACCESSORIES

TV tuner unit TU-1110E/UB
Battery pack NP-1
Car battery cord DCC-16AE

Your dealer may not handle some of the above listed optional accessories. Please ask the dealer for detailed information about the optional accessories available in your country.

SAFETY-RELATED COMPONENT WARNING !!


COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1. GENERAL			4. DIAGRAMS		
1-1.	Features	4	4-1.	Circuit Boards Location	27
1-2.	Location and Function of Controls.	5	4-2.	Block Diagram	27
1-3.	Power Sources	8	4-3.	Schematic Diagram	31
1-4.	System Connections.	9	4-4.	Waveforms	39
1-5.	Internal View	10	4-5.	Printed Wiring Boards.	41
				BA Board.	41
2. DISASSEMBLY AND REPLACEMENT				C and HB Boards.	42
2-1.	Cabinet Removal.	11		DA Board	43
2-2.	Bezel Removal (HA, HB, XA Board).	11		DC and DD Boards	44
2-3.	Cabinet Bottom Removal	12		FB Board.	45
2-4.	DA Board Removal	13		FC, FA and XA Boards.	46
2-5.	BA, BB Board Removal	13		BB and Q Boards.	47
2-6.	Picture Tube Removal	14		DB and HA Boards	48
2-7.	Replacing FBT	14	4-6.	Semiconductors	49
3. ADJUSTMENTS			5. EXPLODED VIEWS		
3-1.	Setup Adjustments	15	5-1.	Bezel, Cabinet.	50
3-2.	Circuit Adjustments.	18	5-2.	Bottom Cabinet	51
3-2-1.	BB Board Adjustments	19	5-3.	Chassis	52
3-2-2.	HA Board Adjustments.	20			
3-2-3.	BA Board Adjustments.	21	6. ELECTRICAL PARTS LIST		53
3-2-4.	DA and FB Boards Adjustments.	24			

SECTION 1 OUTLINE

1-1. FEATURES

Microblack™ Trinitron® picture tube

The Microblack Trinitron picture tube gives a high resolution, high contrast picture.

PAL/SECAM broadcasting standard receivable

The monitor can receive PAL and SECAM signals. The appropriate broadcasting standard is selected automatically.

Push-to-lock controls

In the locked position, the controls are protected from damage during carriage of the unit. The protruding position allows easier operation.

Monitor of sync signals

The HV-DELAY switch allows horizontal and vertical sync signals to be displayed on the screen.

Blue only picture

By using the B-ONLY switch, the picture can be displayed in blue and black only, facilitating hue adjustment or observation of VTR noise.

Underscan mode

The signal normally scanned outside of the screen can be monitored in underscan mode.

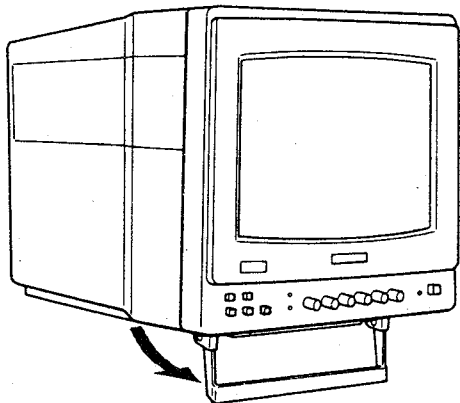
6-pin DIN tuner connector

The TUNER connector allows easy connection of a TV tuner, which is equipped with the 6-pin DIN connector, using a single cable.

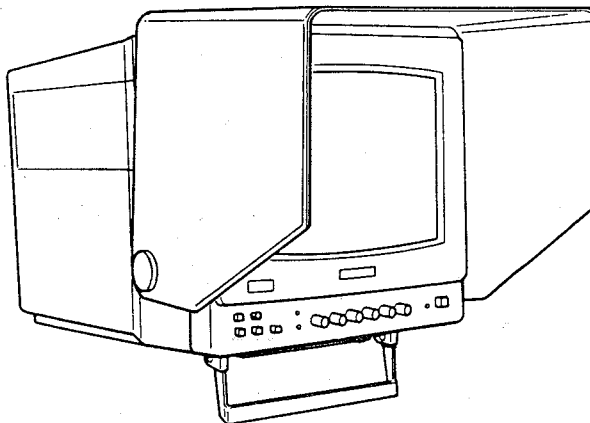
Three power sources

The monitor can operate on either house current, a rechargeable battery or a 12 V car battery, allowing use indoors or outdoors. The battery charge function is incorporated.

Use on the stand

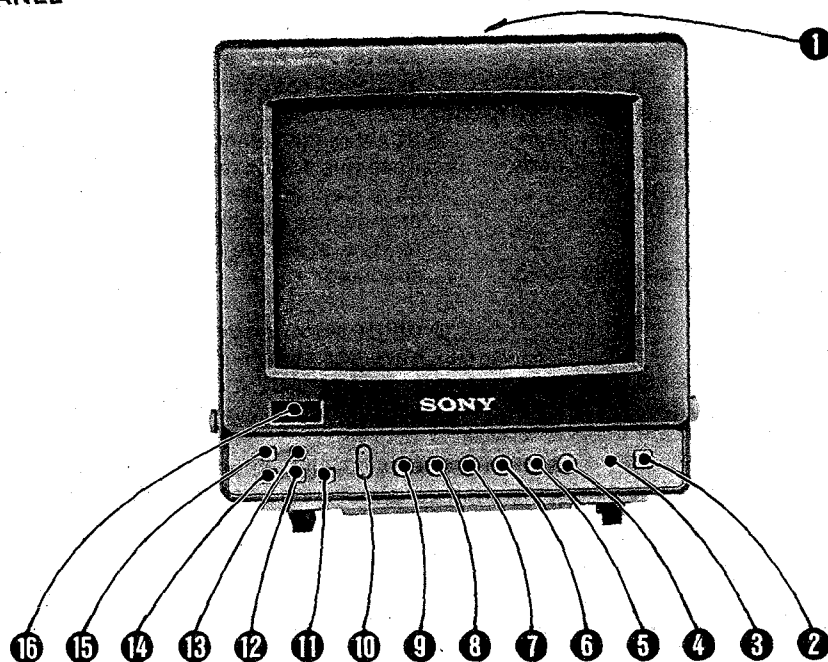


Attaching the supplied hood

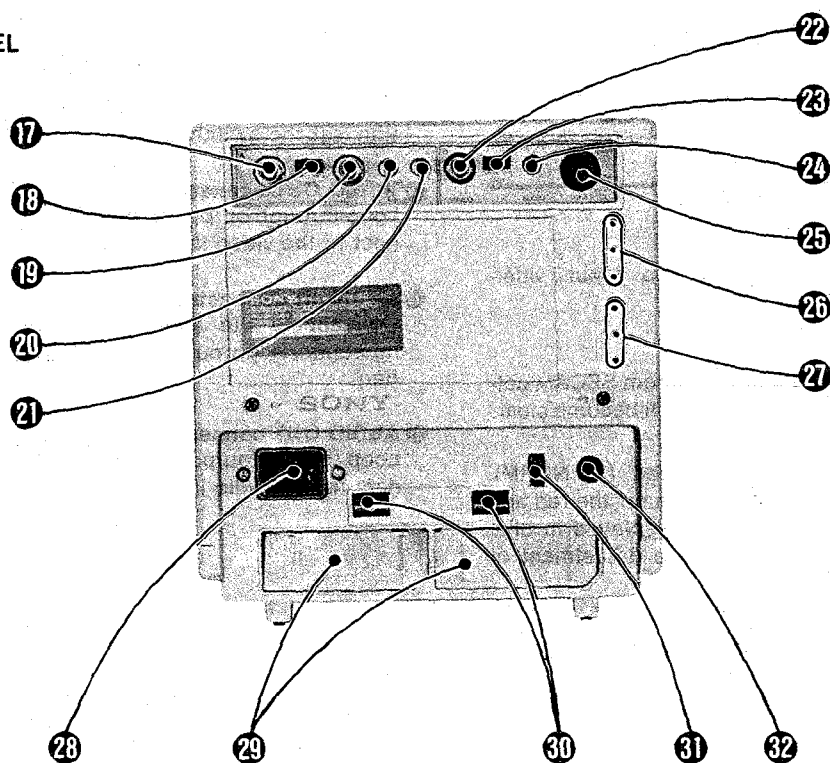


1-2. LOCATION AND FUNCTION OF CONTROLS

FRONT PANEL



REAR PANEL



1 Carrying handle

2 POWER switch

To turn the monitor on, depress the POWER switch (\square ON). To turn it off, press the switch again (\square OFF).

3 BATT (power/battery) indicator

This indicator lights when the power is turned on. When the rechargeable battery becomes weak, the indicator flashes for about five minutes. Then it goes out, and the power is automatically turned off.

4 VOL (volume) control

Turn this control clockwise or counterclockwise to obtain the desired volume.

5 PICTURE control

Adjusts the contrast, intensity and brightness simultaneously in the proper ratio.

6 BRIGHT (brightness) control

Adjusts the brightness. Normally set this control at the center detent position.

7 COLOR control

Adjusts the color intensity of the picture. Clockwise rotation makes the picture more vivid; counterclockwise rotation makes it paler.

8 SHARP (sharpness) control

Adjusts the sharpness of the picture. Clockwise rotation makes the picture sharper; counterclockwise rotation makes it softer.

9 V HOLD (vertical hold) control

If the picture rolls vertically, correct it with this control.

Before turning one of the controls 4 to 9 for easier operation press on it to release the control to a protruding position.

10 Color system indicators

Indicate the color system of the input video signal: PAL or SECAM.

11 SECAM switch

Depress this switch when a picture from SECAM color sources is distorted. The picture will become clear.

12 B-ONLY (blue only) switch

Normally keep this switch released (\square NORM). Depress the switch (\square BLUE) to turn off the red and green beams. The picture will be displayed in blue and black only. This facilitates hue adjustment or observation of VTR noise.

13 HV-DELAY switch

Normally keep this switch released (\square NORM). To monitor the sync signals, depress the switch (\square H/V). The picture is shifted horizontally and vertically. The horizontal sync is displayed in left approximately one quarter of the screen and the vertical sync is displayed near the center of the screen.

14 SCAN mode select switch

Keep this switch released (\square NORM) for normal scanning. Depress the switch (\square UNDER) to reduce the display size by about 5 % (underscanning mode) and to view a picture which does not appear in normal scanning.

15 INPUT select switch

Keep this switch released (\square A) to monitor the signal from the INPUT A connectors. Depress the switch (\square B) to monitor the signal from the INPUT B connectors.

16 CHARGE indicator

Lights during charging. When charging is complete, the indicator goes out.

INPUT A (17 - 21)

To monitor the input signals connected to these connectors, keep the INPUT select switch released (\square A).

17 VIDEO IN connector (BNC type)

Connect to the video output of video equipment, such as a VTR or a color video camera.

18 75 Ω termination switch

When only the VIDEO IN connector is used (the VIDEO OUT connector is not used), set this switch to ON. When both the VIDEO IN and VIDEO OUT connectors are used together for a loop-through connection, set the switch to OFF.

19 VIDEO OUT connector (BNC type)

Loop-through output of the VIDEO IN connector. Connect to the video input of a VTR or another monitor.

20 AUDIO IN connector (minijack)

Connect to the audio output of a VTR or to a microphone (through a suitable microphone amplifier).

21 AUDIO OUT connector (minijack)

Loop-through output of the AUDIO IN connector. Connect to the audio input of a VTR or another monitor.

INPUT B (22 - 25)

To monitor the input signals to these connectors, depress the INPUT select switch (A B).

22 VIDEO input/output connector (BNC type)

Connect to the video output of a VTR or a color video camera.

When a TV tuner is connected to the TUNER connector and the 75 Ω termination switch 23 is set to OFF, this connector can be used as a loop-through output of the TUNER connector. Connect to the video input of a VTR or another monitor.

23 75 Ω termination switch

Normally set this switch to ON. When both the TUNER and VIDEO connectors are used together for a loop-through connection, set the switch to OFF.

24 AUDIO input/output connector (minijack)

Connect to the audio output of a VTR or to a microphone (through a suitable microphone amplifier).

When a TV tuner is connected to the TUNER connector and the 75 Ω termination switch 23 is set to OFF, this connector can be used as a loop-through output of the TUNER connector. Connect to the audio input of a VTR or another monitor.

25 TUNER connector (6-pin DIN)

Connect to the 6-pin DIN connector of a TV tuner. The video and audio signals are supplied to the monitor and the power from the monitor is fed to the tuner using a single cable.

Note

The TUNER input and the VIDEO/AUDIO inputs 22, 24 cannot be used simultaneously. When connecting a TV tuner to the monitor, be sure to disconnect any input source equipment from the VIDEO and AUDIO connectors, or vice versa.

26 R/G/B BKG (background) controls

Used for adjusting the white balance of the background.

27 R/G/B DRIVE controls

Used for adjusting the white balance at the white peak.

28 AC IN socket

Connect the supplied ac power cord.

29 Battery compartments

Insert the NP-1 battery pack.

30 EJECT buttons

Press the EJECT button upwards to remove the battery pack.

31 OPERATE/CHARGE select switch

Normally set this switch to OPERATE. To charge the battery pack, set to CHARGE. The CHARGE indicator on the front panel lights. When charging is complete, the CHARGE indicator goes out; reset the switch to OPERATE.

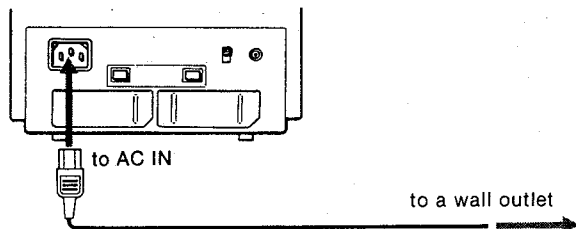
32 EXT BATTERY (external battery) DC IN 12 V jack

Connect the optional DCC-16AE car battery cord.

1-3. POWER SOURCES

HOUSE CURRENT

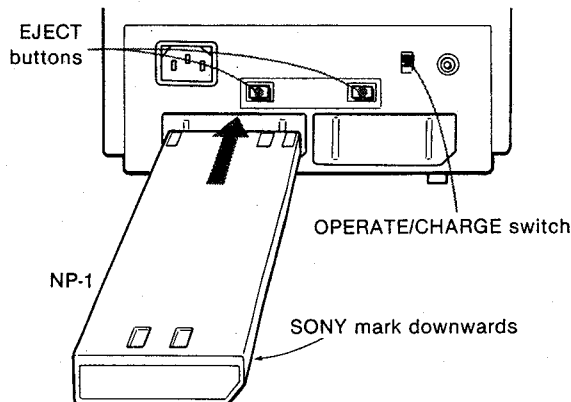
Connect the supplied ac power cord to the AC IN socket and to a wall outlet.



When the ac power cord is plugged into the AC IN socket, the battery pack (if installed) or the car battery (if connected) is automatically disconnected.

RECHARGEABLE BATTERY

Insert the Sony NP-1 battery pack (optional) into the battery compartment as illustrated. The monitor can operate with one or two battery packs. For extended use, two battery packs are recommended.



To remove the battery pack, press the EJECT button upwards.

Note

Make sure that the ac power cord and the car battery cord are disconnected from the monitor. Otherwise, the monitor cannot operate on the battery pack(s).

Charging the battery pack

Before using the monitor, be sure to fully charge the battery pack. The charging time is about 6 hours at normal temperatures.

- 1 Connect the supplied ac power cord to the AC IN socket and then to a wall outlet.
- 2 Insert the battery pack(s) into the battery compartment(s).

- 3 Set the OPERATE/CHARGE switch to CHARGE.
- 4 Depress the POWER switch. The CHARGE indicator lights and charging begins.

When charging is complete, the CHARGE indicator goes out. Be sure to reset the OPERATE/CHARGE switch to OPERATE.

When the OPERATE/CHARGE switch is set to CHARGE, the picture cannot be monitored.

- For quicker charging, use the optional BC-1WA battery charger for NP-1.

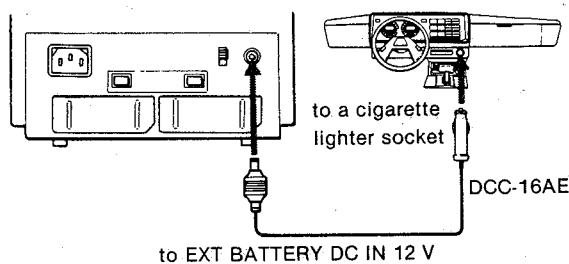
Battery life

At normal temperatures, the picture can be monitored continuously for about 60 minutes using two battery packs and operating the TV tuner connected to the monitor. When the TV tuner is not used, longer battery life can be expected (about 75 to 80 minutes).

When the battery is exhausted, the green BATT indicator flashes for about five minutes, and then the power is turned off automatically to prevent excessive battery discharge. When the BATT indicator goes off, press the POWER switch and replace the exhausted battery pack(s) with fully charged one(s), or use another power source.

CAR BATTERY

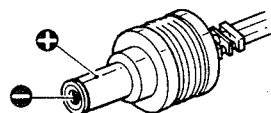
Use the Sony DCC-16AE car battery cord (optional) for a 12 V car battery. Connect the car battery cord to the EXT BATTERY DC IN 12 V jack and to the cigarette lighter socket of a car. For further details, read the instruction manual of the car battery cord.



When the car battery cord is plugged into the EXT BATTERY DC IN 12 V jack, the battery pack (if installed) is disconnected automatically.

Note

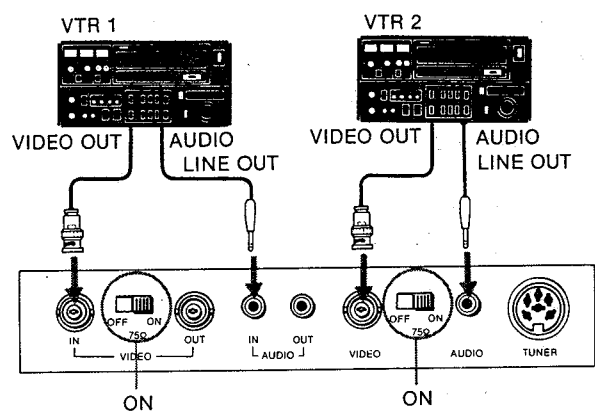
If a car battery cord not manufactured by Sony is used, a fuse must be installed in the car battery cord and the polarity of the plug must be as illustrated.



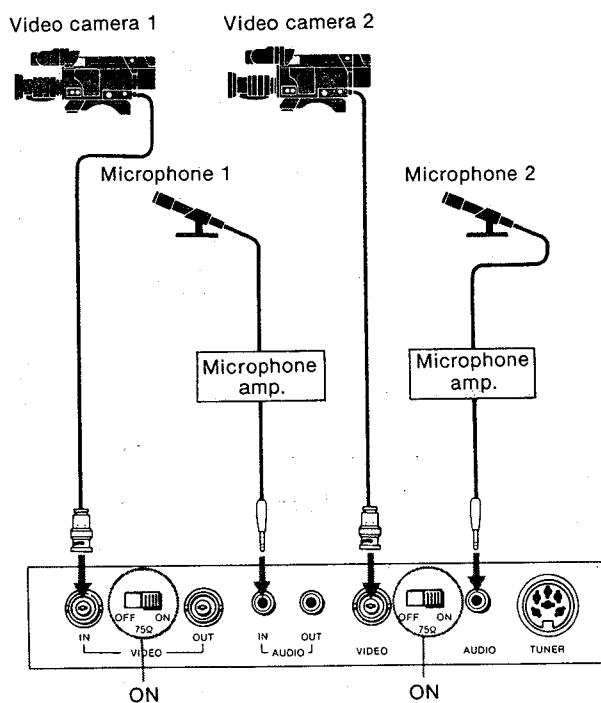
Polarity of the plug of Sony car battery cord

1-4. SYSTEM CONNECTIONS

CONNECTING A VTR

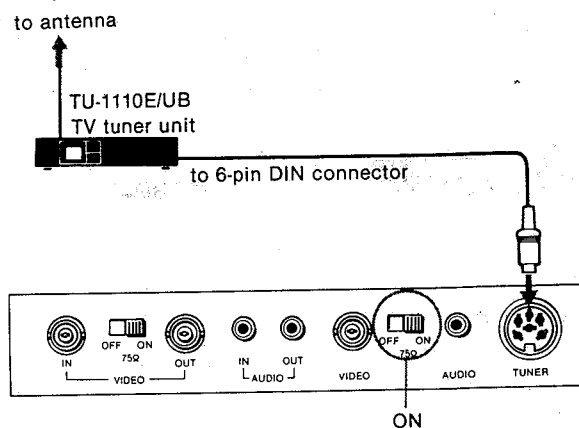


CONNECTING A CAMERA AND A MICROPHONE



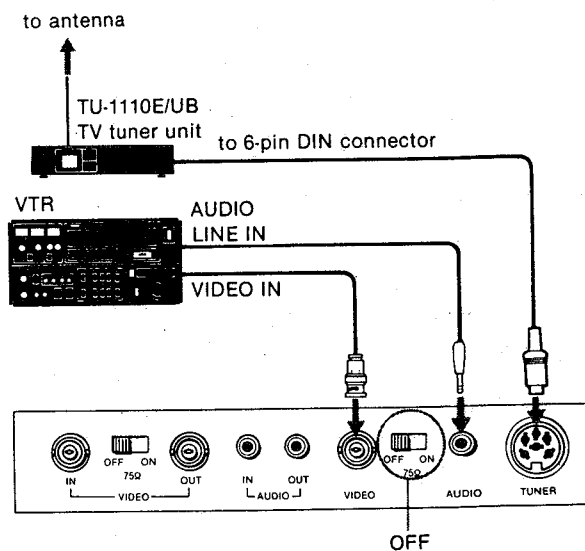
CONNECTING A TV TUNER

The Sony TU-1110E/UB TV tuner unit, which is equipped with a 6-pin DIN connector, can be connected to the monitor.

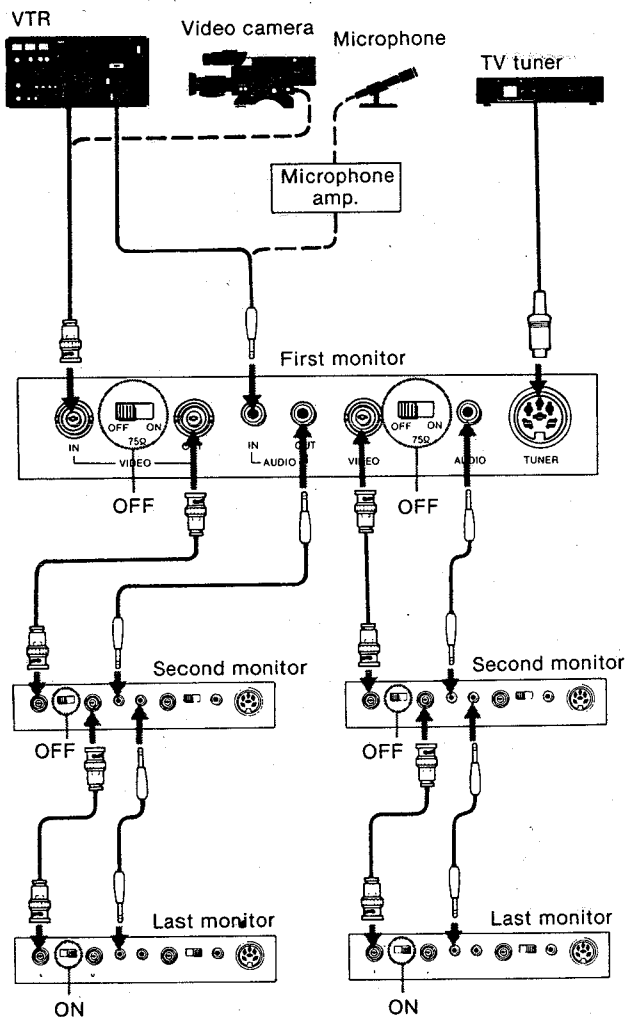


CONNECTING A TV TUNER AND A VTR

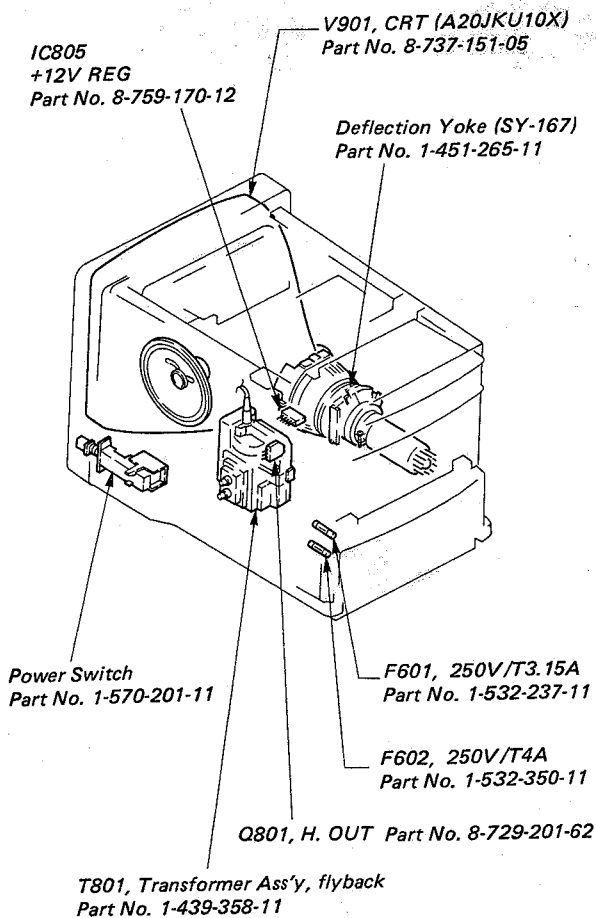
The VIDEO and AUDIO connectors of INPUT B can be used as loop-through outputs of the TUNER connector. By making the following connection, TV programs received by the TV tuner can be recorded on a VTR while monitoring the picture.



The loop-through connection is convenient for monitoring the same signal on several monitors. Use the VIDEO OUT and AUDIO OUT connectors of INPUT A, and for the TV tuner, use the VIDEO and AUDIO connectors of INPUT B. Up to 10 monitors can be connected for each group. Set the 75Ω termination switch of the last monitor to ON and those of the other monitors to OFF.

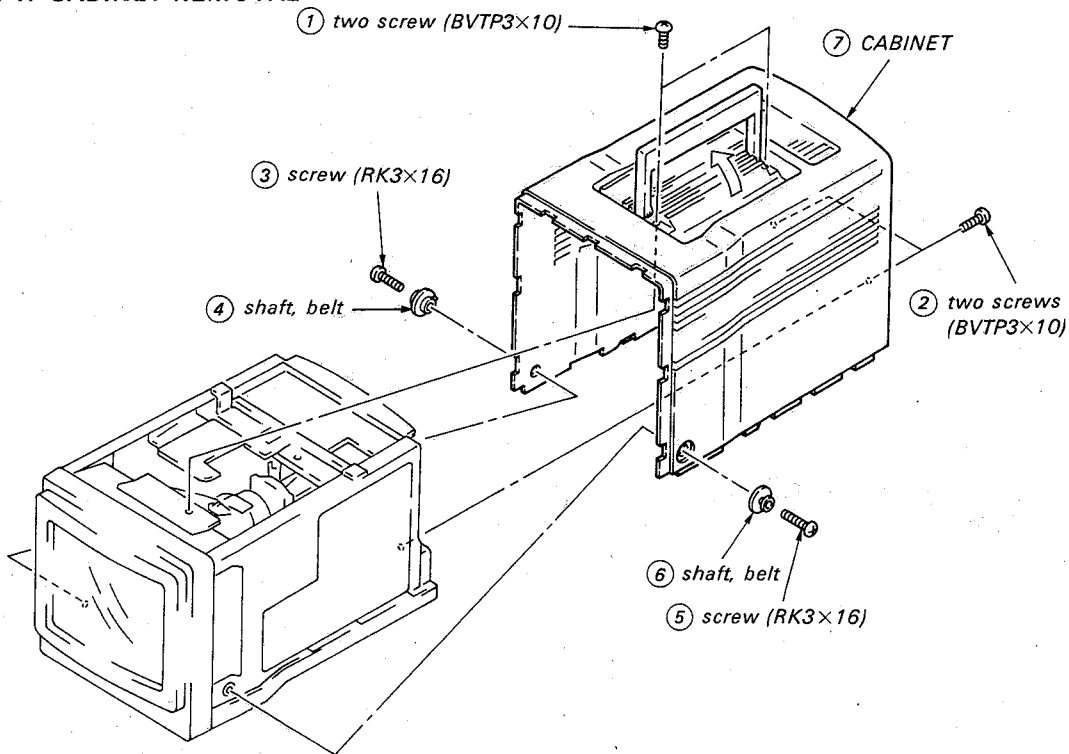


1-5. INTERNAL VIEW

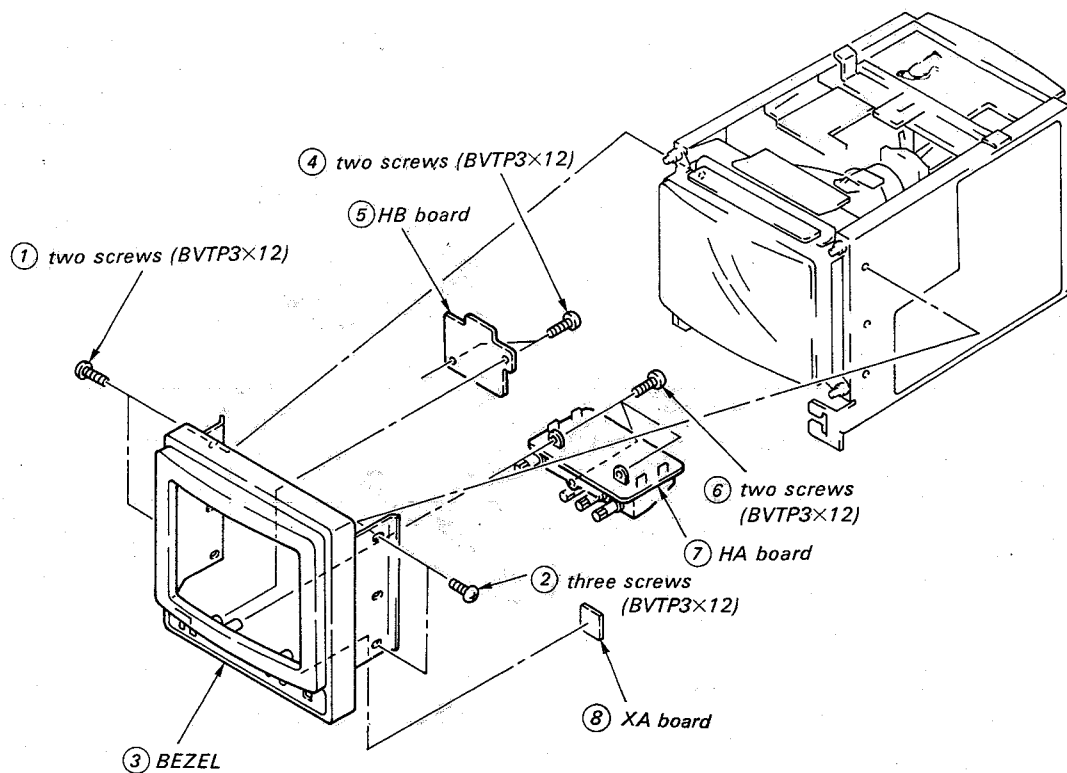


SECTION 2 DISASSEMBLY AND REPLACEMENT

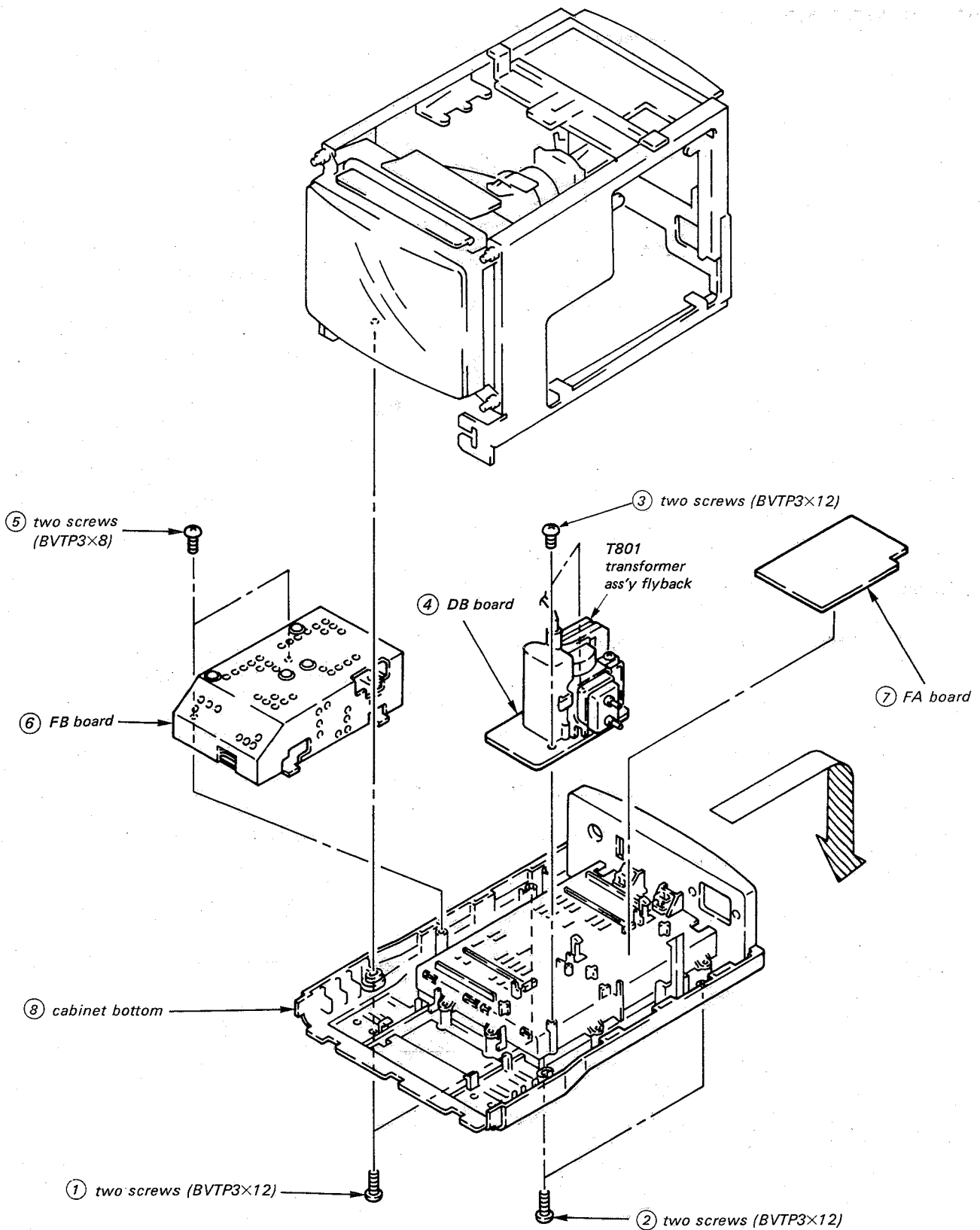
2-1. CABINET REMOVAL



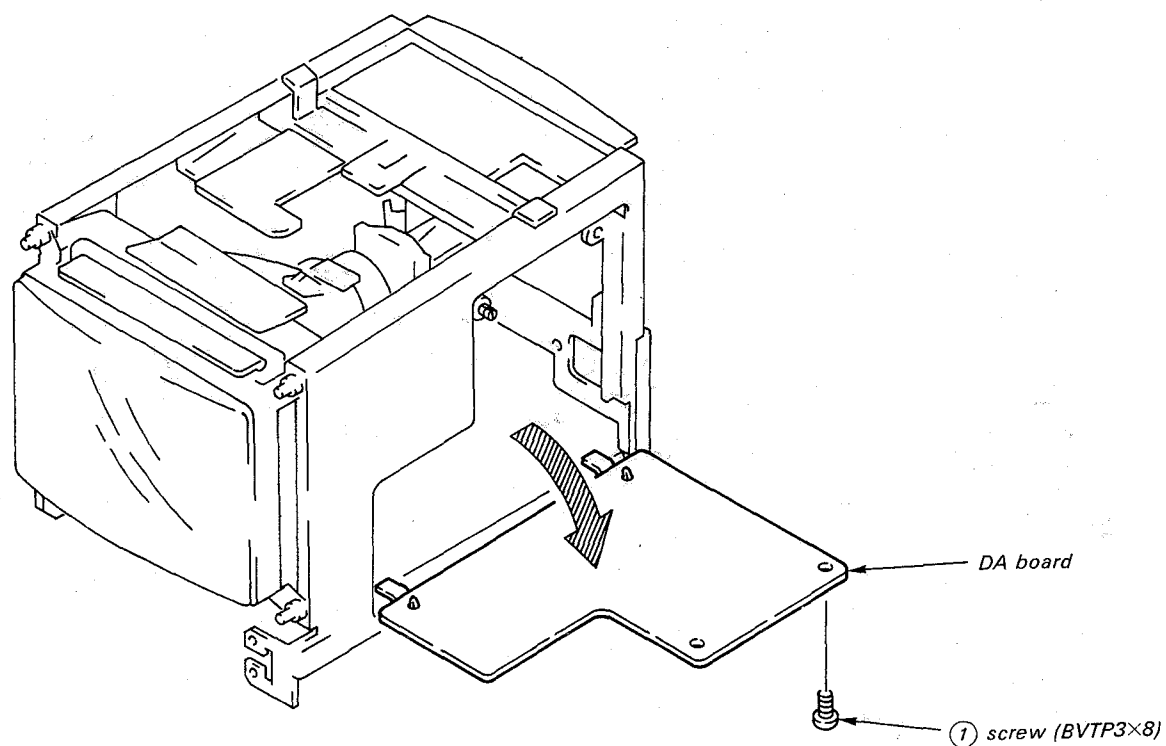
2-2. BEZEL REMOVAL (HA, HB, XA BOARD)



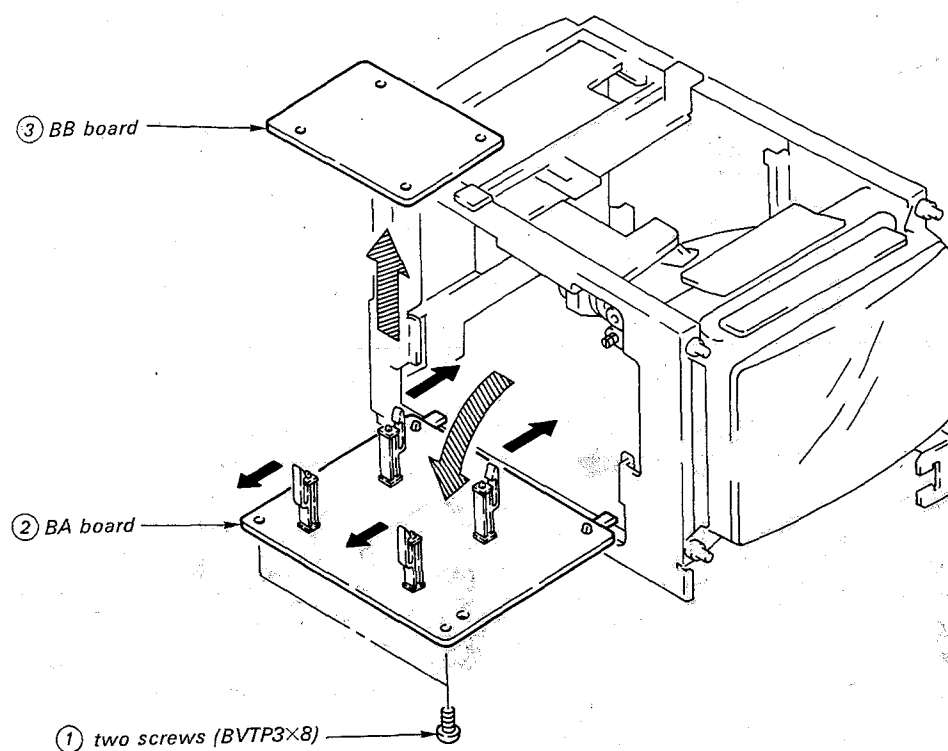
2-3. CABINET BOTTOM REMOVAL



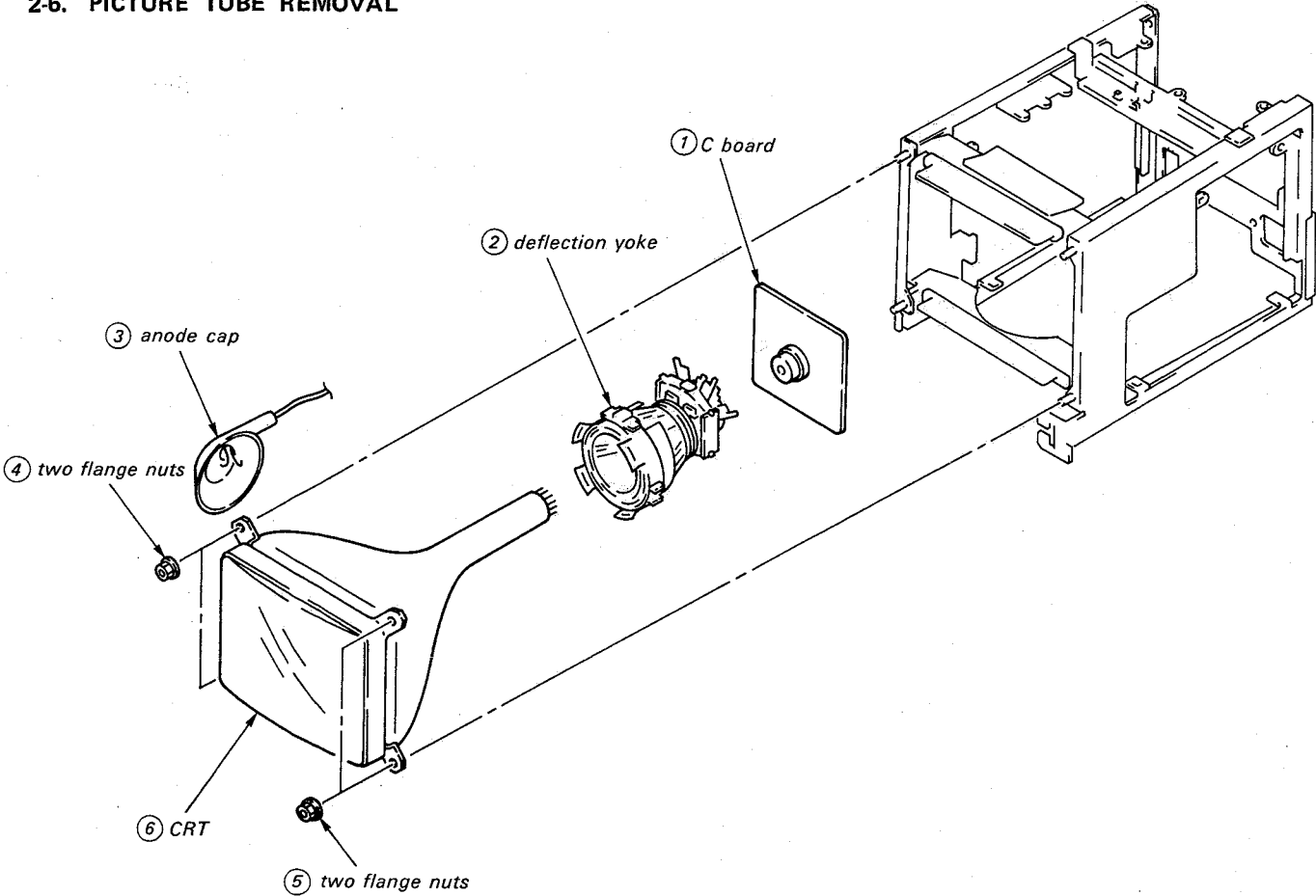
2-4. DA BOARD REMOVAL



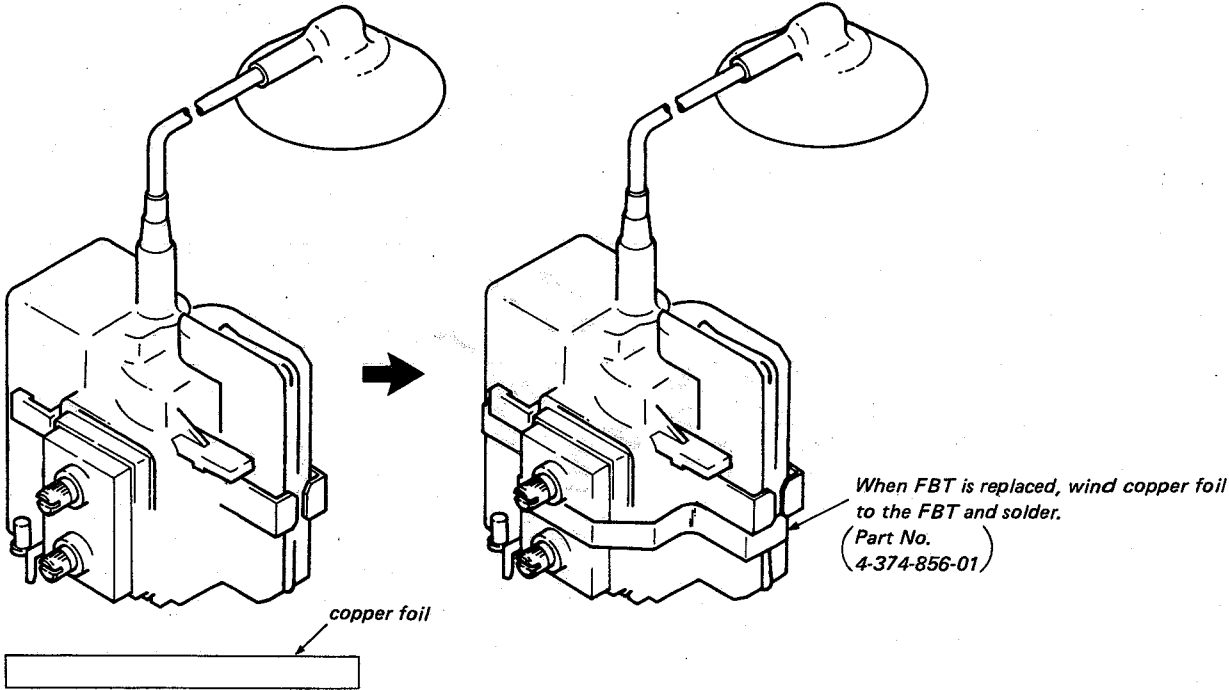
2-5. BA, BB BOARD REMOVAL



2-6. PICTURE TUBE REMOVAL



2-7. REPLACING, FBT



SECTION 3 ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

Controls and switch should be set as follows unless otherwise noted:

BRT, CONTR controls fully clockwise

Make the following adjustments in the order as follows given:

- 3-1-1. Beam Landing
- 3-1-2. Focus Adjustment
- 3-1-3. Convergence
- 3-1-4. White Balance

Note: Test Equipment Required

- 1. Color-bar/pattern generator
- 2. Degausser

3-1. SETUP ADJUSTMENTS

3-1-1. BEAM LANDING

Preparation:

- Before starting, degauss the entire screen.
- 1. Loosen deflection yoke screw.
- 2. Remove deflection yoke spacers.
- 3. Adjust purity control to center the slide between two projections as shown in Fig. 1-1.
- 4. Slide deflection yoke as far forward as it will go.
- 5. Turn RED CUT OFF VR (RV259) MAX and GREEN (RV261) and BLUE CUT OFF RV (RV263) MIN.
- 6. Turn purity control to center vertical red band as shown in Fig. 1-2.
- 7. Slide deflection yoke back for a uniform red screen.
- 8. Check green and blue rasters for uniformity. Repeat the steps 6, 7 and 8.
- 9. Turn all CUT OFF VR (RV259, 261, 263) for mechanical CENTER.
- 10. Install the deflection yoke spacers.
- 11. Tighten the deflection yoke screw.
- 12. Check if mislanding appears at corners a-d as shown in Fig. 1-3. If mislanding is observed, correct it as shown in Fig. 1-4.

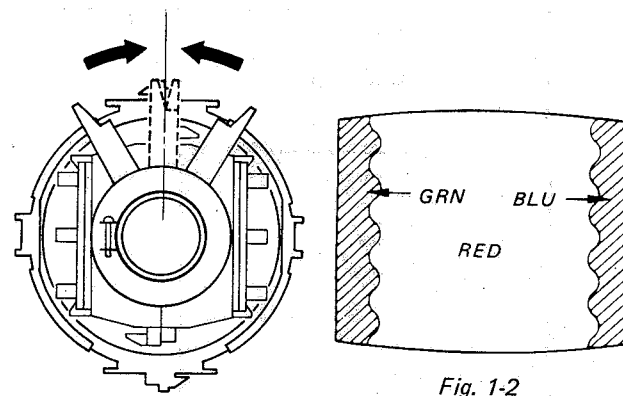


Fig. 1-1

Fig. 1-2

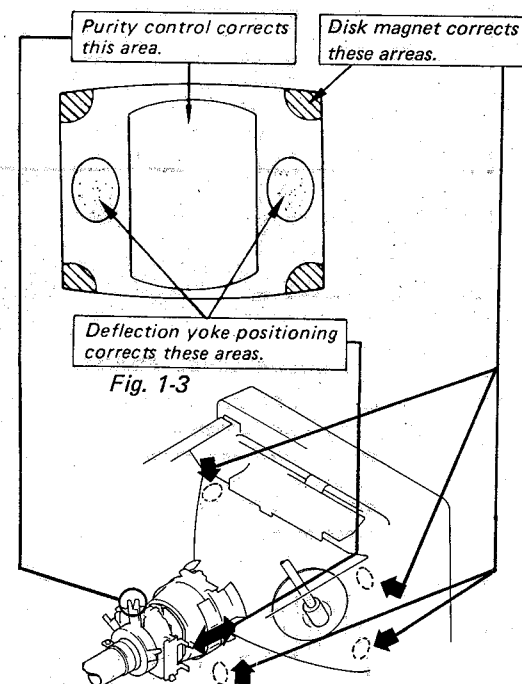
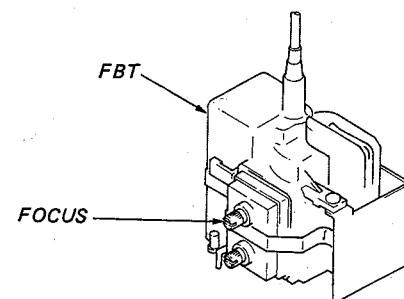


Fig. 1-3

Fig. 1-4



3-1-2. FOCUS ADJUSTMENT

- (1) Input monoscope signal.
PICTURE control 80%
BRICHT control 50%
- (2) Adjust FOCUS control for a best picture at the center and both sides of the screen.

3-1-3. CONVERGENCE

Preparation:

- Before starting, make FOCUS, H.SIZE, V.SIZE and V.LIN adjustments.
- Turn BRT control fully counterclockwise.
- Feed in the dot pattern.

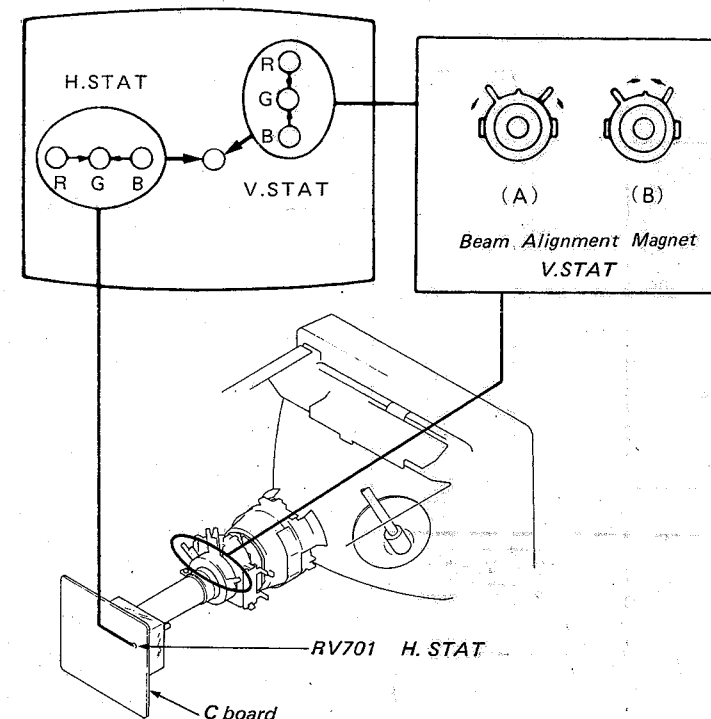
- (1) Horizontal Static Convergence and Vertical Static Convergence

If blue dot does not coincide with red and green dots,

Move BMC magnet to correct insufficient H.Static convergence.

Rotate BMC magnet to correct insufficient V.static convergence.

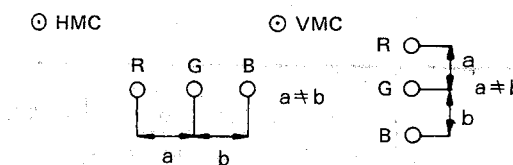
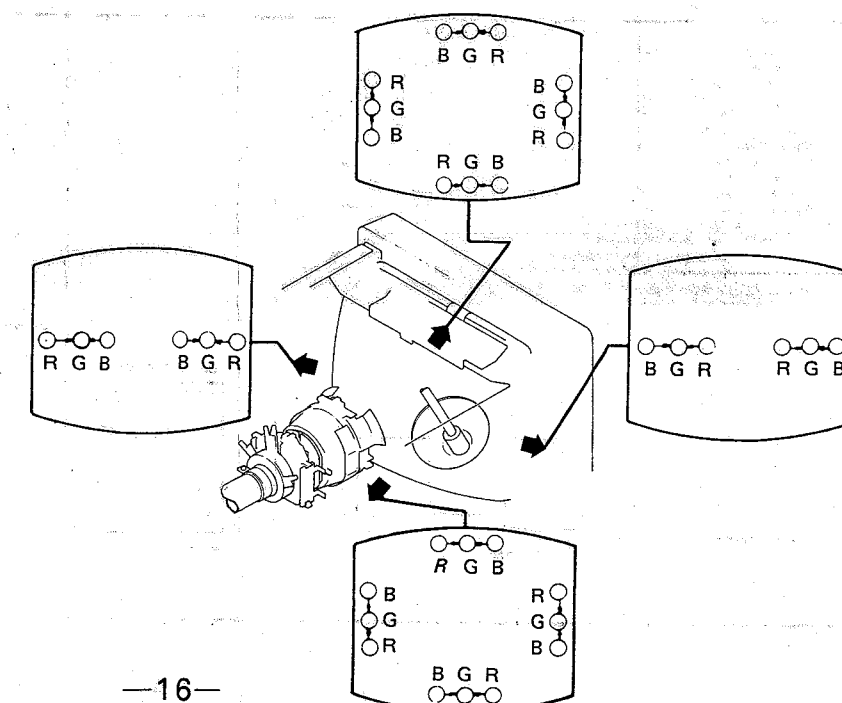
In either case, repeat Beam Landing Adjustment.



- (2) Dynamic Convergence Adjustment

Preparation:

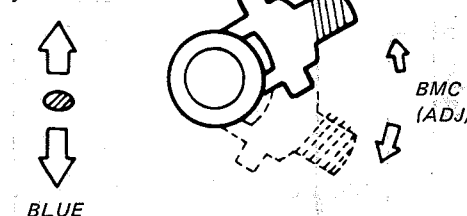
- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
- 1. Loosen deflection yoke screw.
- 2. Remove deflection yoke spacers.
- 3. Move the deflection yoke for best convergence as shown below.
- 4. Tighten the deflection yoke screw.
- 5. Install the deflection yoke spacers.



Adjust HMC



Adjust VMC



3-1-4

(1)

1.

2.

3.

4.

(2)

1.

2.

3.

4.

5.

6.

7.

3-1-3. CONVERGENCE

Preparation:

- Before starting, make FOCUS, H.SIZE, V.SIZE and V.LIN adjustments.
- Turn BRT control fully counterclockwise.
- Feed in the dot pattern.

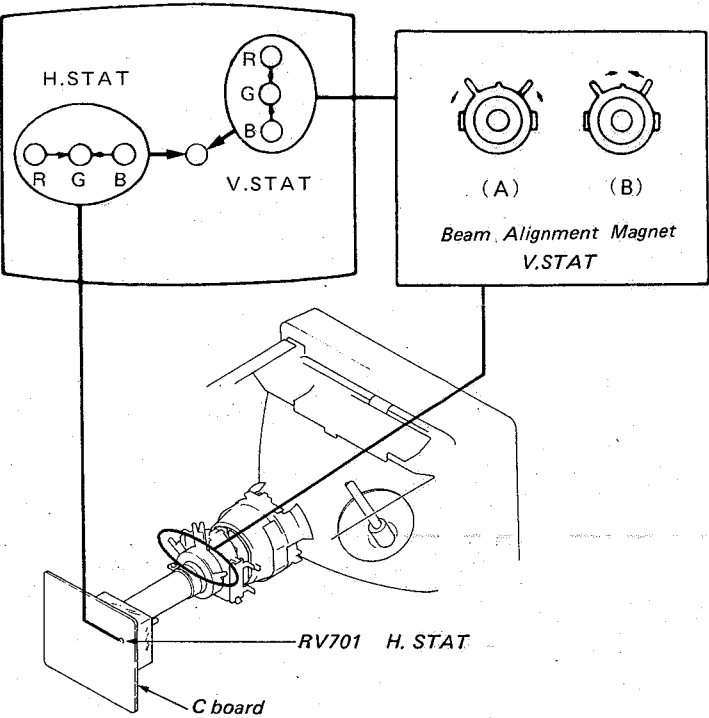
(1) Horizontal Static Convergence and Vertical Static Convergence

If blue dot does not coincide with red and green dots,

Move BMC magnet to correct insufficient H.Static convergence.

Rotate BMC magnet to correct insufficient V.static convergence.

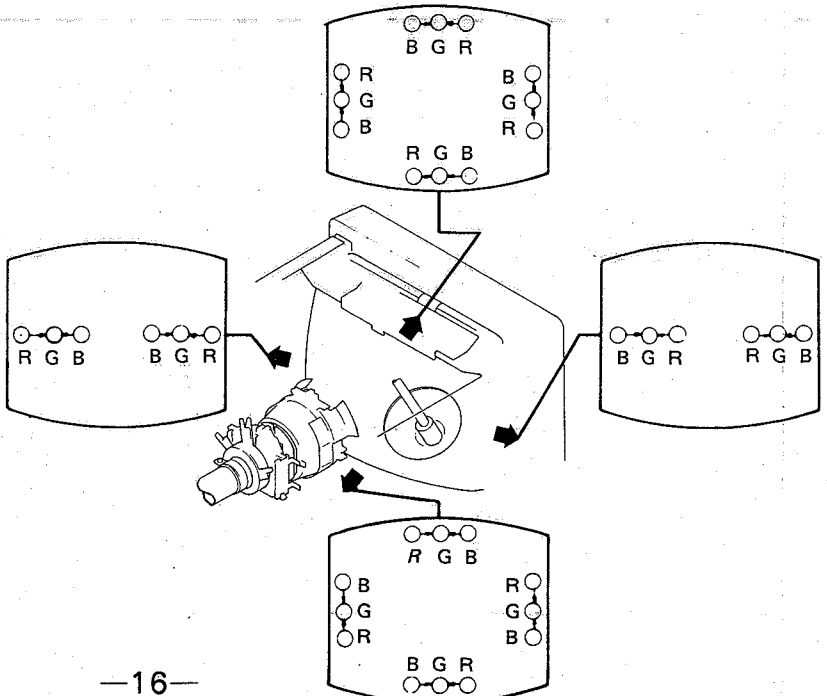
In either case, repeat Beam Landing Adjustment.



(2) Dynamic Convergence Adjustment

Preparation:

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
1. Loosen deflection yoke screw.
 2. Remove deflection yoke spacers.
 3. Move the deflection yoke for best convergence as shown below.
 4. Tighten the deflection yoke screw.
 5. Install the deflection yoke spacers.



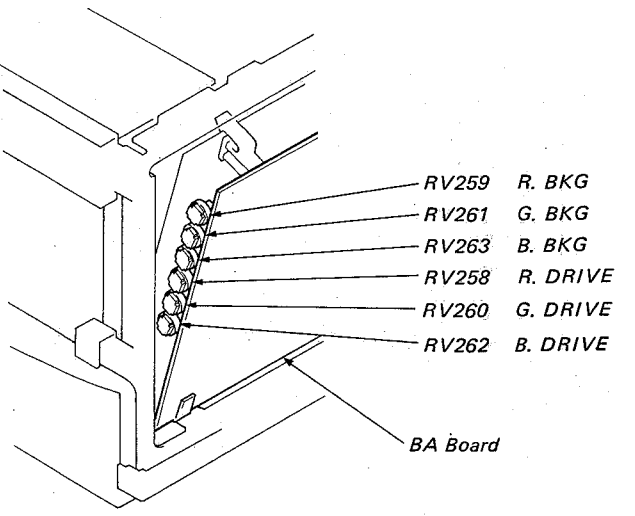
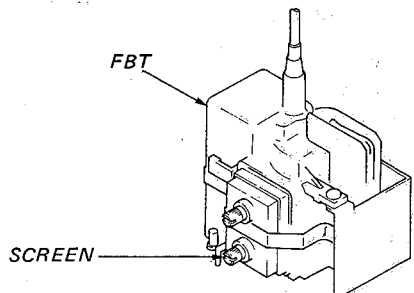
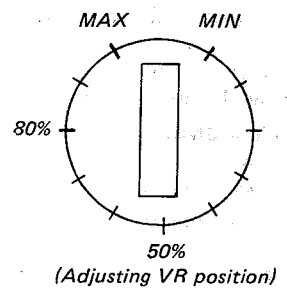
3-1-4. WHITE BALANCE

(1) SCREEN (G2)

1. Input a dots pattern.
2. Set the PICTURE control at minimum and turn the BRIGHT control fully counterclock wise.
3. Confirm that BKG voltage is less than 105V dc when turning RV259 (R.BKG), RV261 (G.BKG) and RV263 (B.BKG).
4. Note the color which becomes visible first when turning SCREEN VR.

(2) WHITE BALANCE

1. Input a cross-hatch pattern.
2. Set the PICTURE control to minimum and turn the BRIGHT control click position.
3. Turn RV262 (B.DRIVE), RV260 (G.DRIVE) and RV258 (R.DRIVE) fully clockwise.
4. Set RV259 (R.BKG), RV261 (G.BKG) and RV263 (B.BKG) to minimum.
5. Turn RV509 (SUB BRT) slowly to obtain a faintly visible cross-hatch. Note the color that first becomes visible by turning. Do not turn a BKG control for this color.
6. Adjust the other two BKG controls for best white balance (neutral gray) of the faint cross-hatch. Set the PICTURE control to maximum and turn the BRIGHT control fully clockwise. Observe the screen and adjust the DRIVE controls for best white balance.
7. Repeat steps 1. through 6. several times.



3-2. CIRCUIT ADJUSTMENTS

Note: (1) TEST EQUIPMENT REQUIRED

1. Oscilloscope
2. Digital multimeter
3. Color-bar/pattern generator

(2) INPUT SIGNAL

When making these adjustments, supply a color-bar or an off-air signal.

- (3)** These adjustment should be performed with the rated power supply voltage unless otherwise noted.

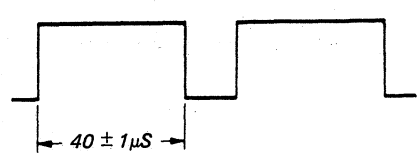
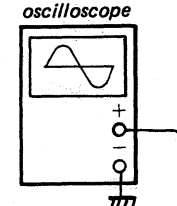
(4) CIRCUIT ADJUSTMENTS

Adjustment	Circuit Board	Page
1H DELAY V. DELAY LINE PULSE DELAY	BB	18-19
SUB CONTRAST SECAM COLOR LEVEL	HA	20
ANT PAL SUB COLOR APC KILLER POINT CHROMA TRAP SECAM (ID) SECAM (B-Y) BAT ACC	BA	21-23
POWER SUPPLY OPERATION BATTERY PROTECTOR	FB	24
+B ADJ BLANKING OPERATION CHECK H BLANKING H FREQ V LINE UNDER SCAN, V SIZE V SIZE V CENT	DA	24-26

3-2-1. BB BOARD ADJUSTMENTS

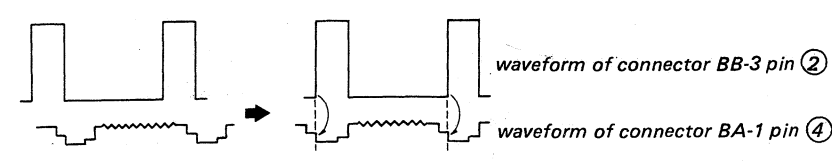
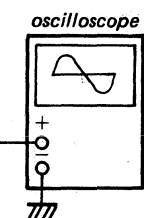
1H DELAY ADJUSTMENT

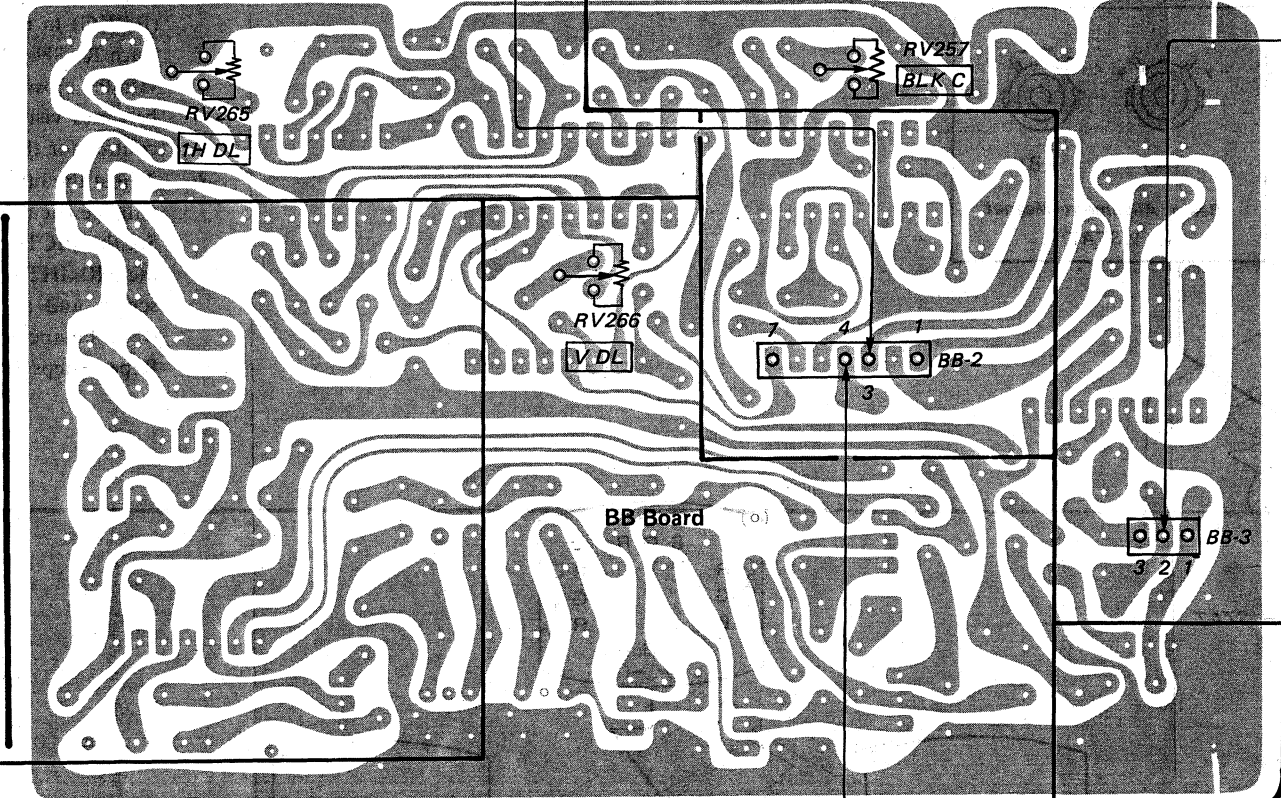
- Input a PAL color bar signal.
PICTURE .80%
BRT50%
- Observe the connector BB-2 pin ③ waveform on the oscilloscope, and adjust RV265 for $40 \pm 1\mu\text{sec}$.

LINE PULSE DELAY ADJUSTMENT

- Input an color bar signal.
- Set the DELAY mode.
- Connect dual oscilloscope at pin ② of BB-3 and pin ④ of BA-1.
- Adjust RV257 for the waveform to becomes as Fig. 1.

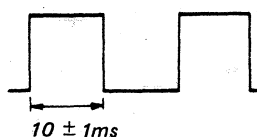
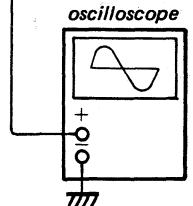





BB Board

V. DELAY ADJUSTMENT

- Input a PAL color bar signal.
PICTURE 80%
BRT 50%
- Observe the connector BB-2 pin ④ waveform on the oscilloscope, and adjust RV266 for $10 \pm 1\text{msec}$.

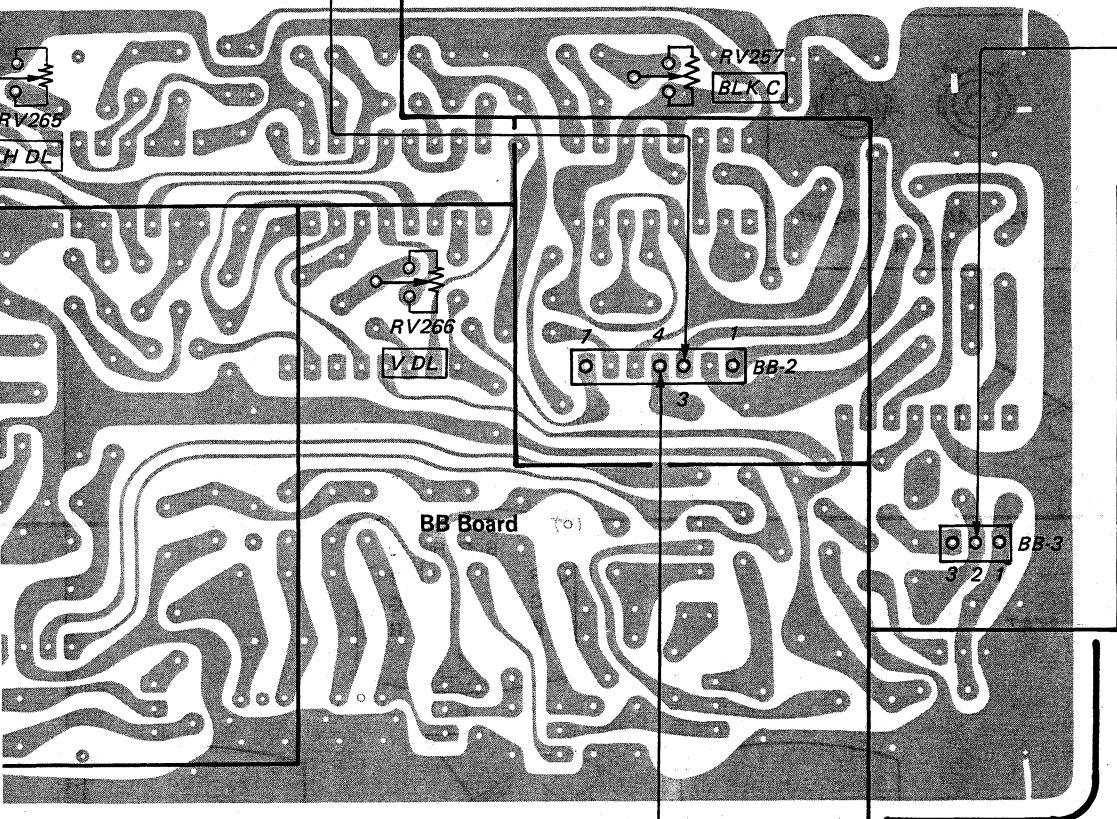
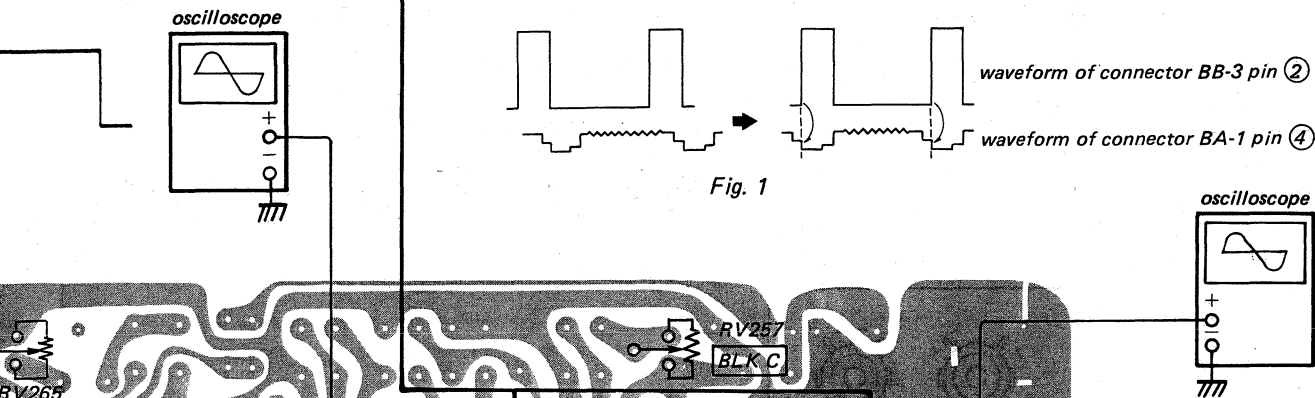
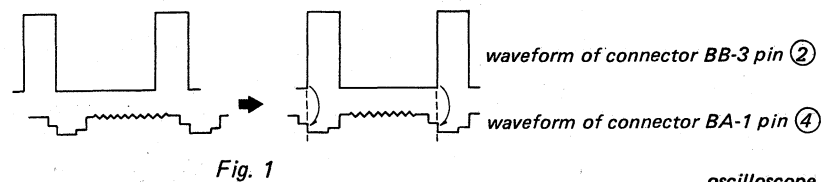
ADJUSTMENTS

ADJUSTMENT

1. Input color bar signal.
 2. Set the DELAY mode.
 3. Connect dual oscilloscope at pin ② of BB-3 and pin ④ of BA-1.
 4. Adjust RV257 for the waveform to become as Fig. 1.

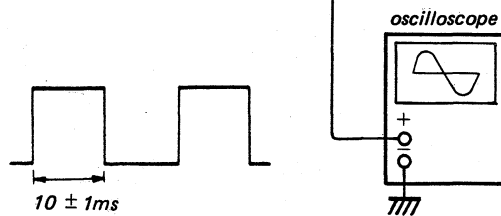
LINE PULSE DELAY ADJUSTMENT

1. Input an color bar signal.
2. Set the DELAY mode.
3. Connect dual oscilloscope at pin ② of BB-3 and pin ④ of BA-1.
4. Adjust RV257 for the waveform to become as Fig. 1.



VT
 signal.

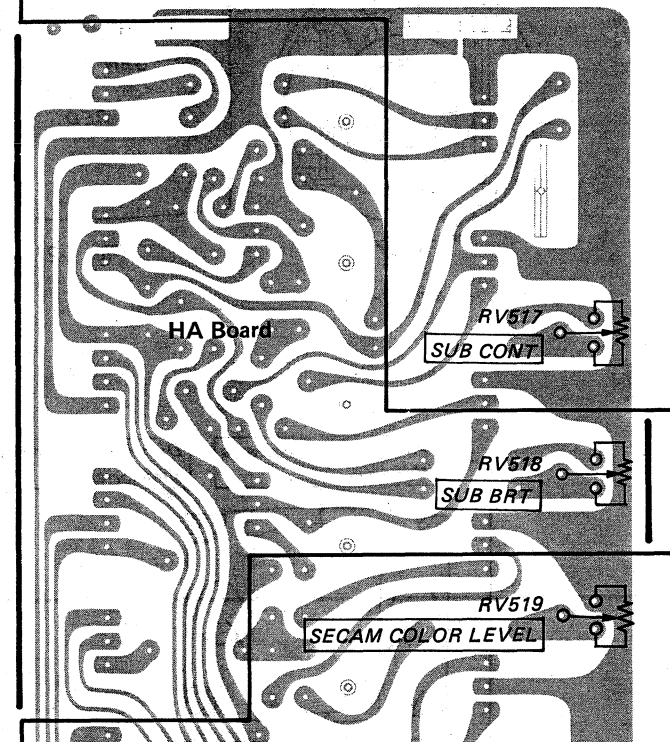
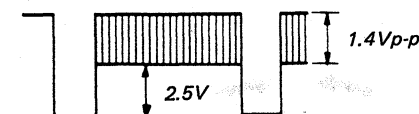
BB-2 pin ④ waveform on
 just RV266 for $10 \pm 1\text{msec}$.



3-2-2. HA BOARD ADJUSTMENTS

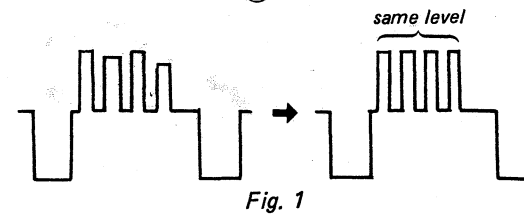
SUB CONTRAST ADJUSTMENT

1. Input a monoscope pattern signal.
 PICTURE 100%
 BRT 50%
2. Observe connector BA-6 pin ③ on the oscilloscope and adjust RV517 so that the signal component is 1.4Vp-p .



SECAM COLOR LEVEL ADJUSTMENT

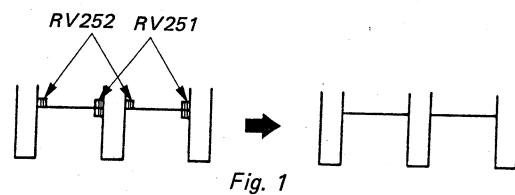
1. Input a SECAM color bar.
2. Connect oscilloscope at pin ③ of BA-6 connector.
3. Set the PICTURE control at max and COLOR control at center.
4. Adjust RV519 (HA board) for the waveform at connector BA-6 pin ③ to become as Fig. 1.



3-2-3. BA BOARD ADJUSTMENTS

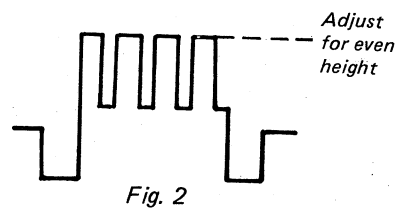
ANT PAL ADJUSTMENT

1. Input a PAL special color bar.
2. Connect an oscilloscope to pin ③ of BA-6 connector.
3. Set the COLOR control at center.
4. Adjust RV251 and RV252 for the waveform at connector BA-6 pin ③ to become as Fig. 1.



SUB COLOR ADJUSTMENT

1. Input a PAL color bar signal.
PICTURE 100%
COLOR 50%
2. Adjust RV264 for the waveform at connector BA-6 ③ to become as Fig. 2.

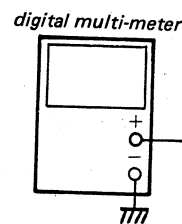


APC ADJUSTMENT

1. Input a PAL color bar signal.
PICTURE 80%
BRIGHT 50%
COLOR 50%
2. Connect a 100kΩ resistor between IC253 pin ⑬ and ground (Killor circuit goes off).
3. Connect a 10μF/25V chemical capacitor between IC253 pin ⑮ and ground.
4. Adjust RV256 to obtain the stable color picture.
5. Disconnect the 100kΩ resistor and chemical capacitor.

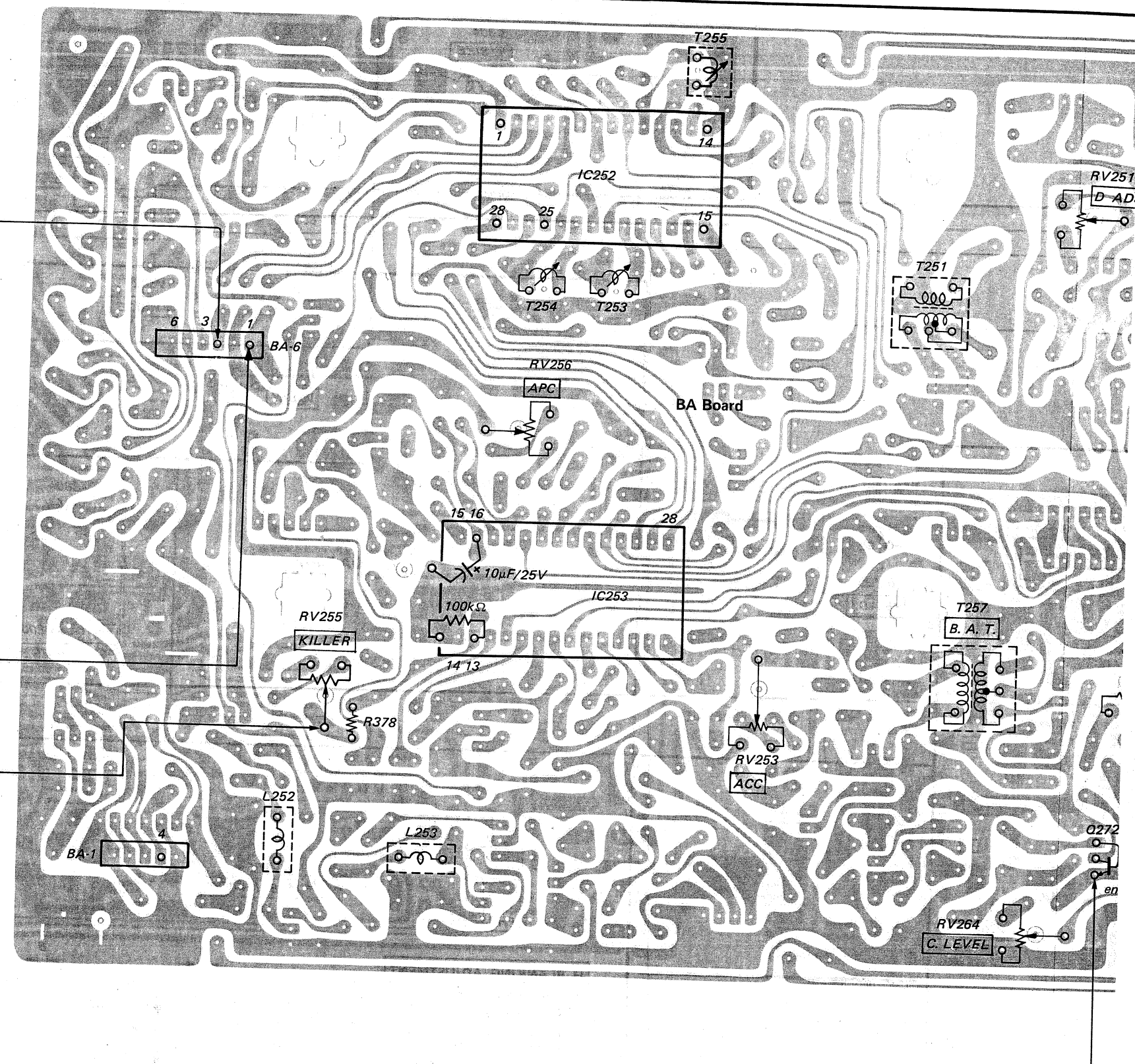
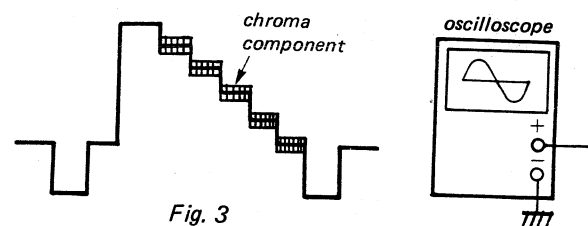
KILLER POINT ADJUSTMENT

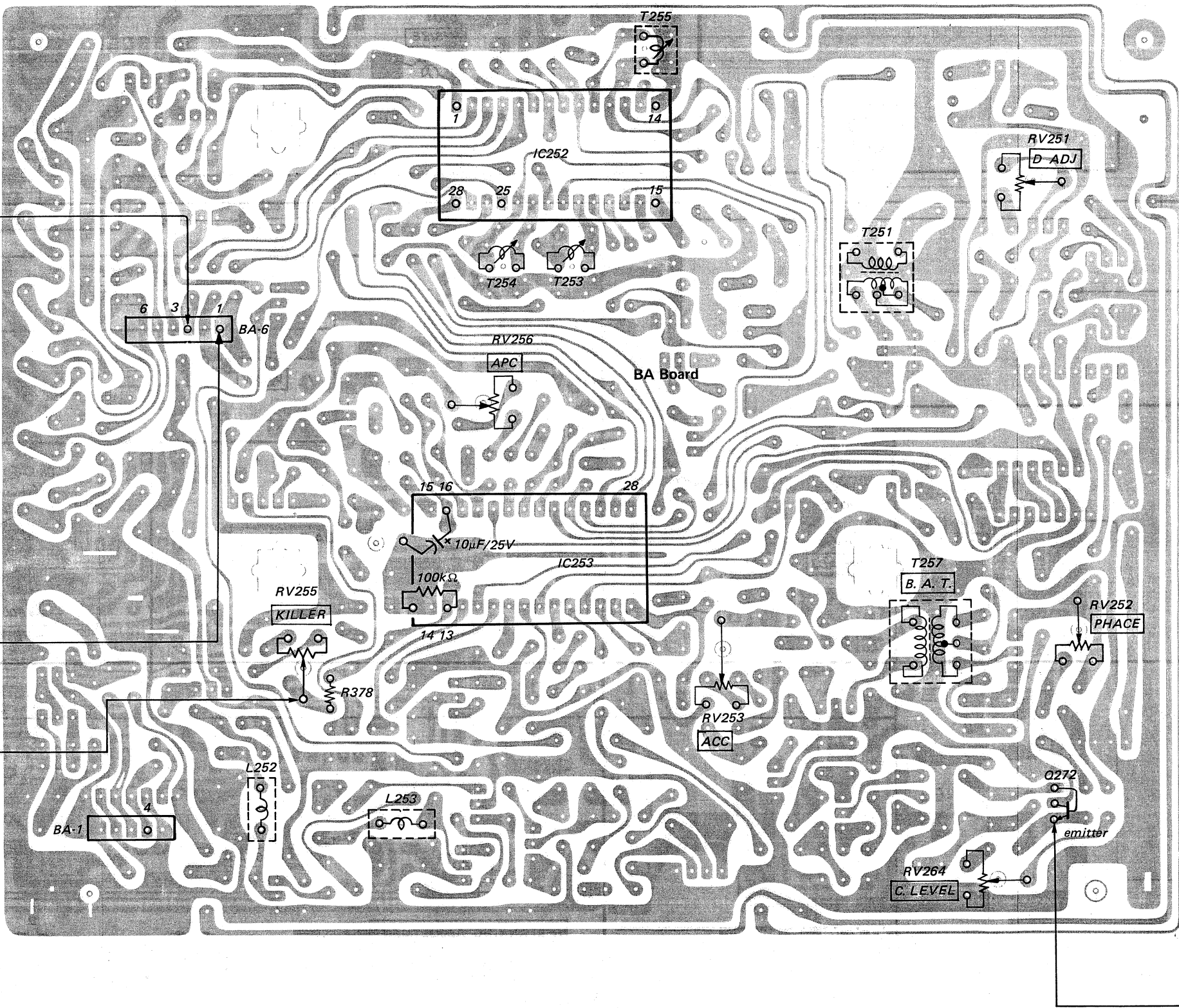
1. Tune in an off-air signal.
2. Connect digital multimeter between R255 and R378.
3. Adjust R255 so that the voltage is 8.3V dc.



CHROMA TRAP ADJUSTMENT

1. Input a SECAM color bar signal.
PICTURE 80%
BRIGHT 50%
2. Observe connector BA-6 pin ① waveform on the oscilloscope and adjust L253 for minimum chroma component.
3. Input a PAL color bar signal.
4. Observe connector BA-6 pin ① waveform on the oscilloscope and adjust L252 for minimum chroma component.



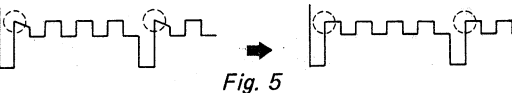


SECAM ADJUSTMENT (ID)

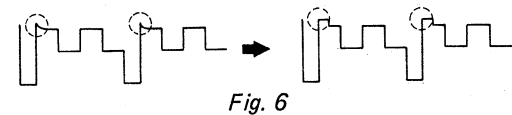
1. Input the SECAM color bar.
2. Connect an digital multimeter to pin 25 of IC252.
3. Adjust T254 so that the digital multimeter reading is maximum.

SECAM ADJUSTMENT (B-Y)

1. Input the SECAM color bar.
2. Connect an oscilloscope to pin 25 of IC252.
3. Adjust T253 for the waveform at pin 25 of IC252 to becomes as Fig. 5.

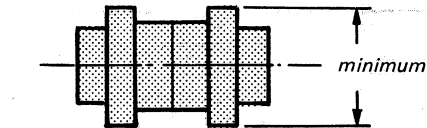


4. Connect an oscilloscope to pin 1 of BA-6 connector.
5. Adjust T255 for the waveform at connector BA-6 pin 1 to become as Fig. 6.



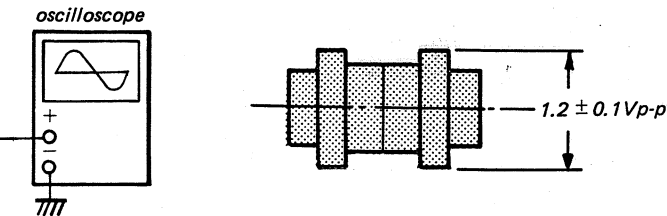
BAT ADJUSTMENT

1. Input a PAL color bar signal.
PICTURE 80%
BRIGHT 50%
COLOR 50%
2. Observe Q272 (E) waveform on the oscilloscope and adjust T257 for minimum chroma component.



ACC ADJUSTMENT1

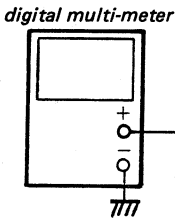
1. Input a PAL color bar signal.
PICTURE 80%
BRIGHT 50%
COLOR 50%
2. Observe Q272 (E) waveform on the oscilloscope and adjust RV253 so that the signal component is $1.2 \pm 0.1V_{p-p}$.



3-2-4. DA AND FB BOARDS ADJUSTMENTS

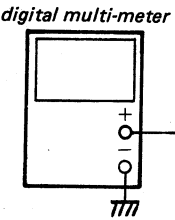
BLANKING OPERATION CHECK

1. Input the monoscope signal.
2. Connect an digital multimeter to TP61.
3. Confirm that the BLANKING circuit operate (the raster disappears) by adding 24.0 ± 0.1 V DC to TP61.



+B ADJUSTMENT

1. Input the monoscope signal.
2. Set the PICTURE control at 80% and each control at 50%.
3. Connect an digital multimeter to TP91.
4. Adjust RV807 so that the voltage is 29 ± 0.1 V.

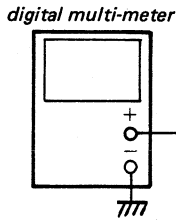


POWER SUPPLY OPERATION CHECK

1. Input a monoscope signal.
2. Connect a digital multi-meter to connector DA-2 pin ①.
3. Adjust RV610 for 15.0 ± 0.2 V DC.

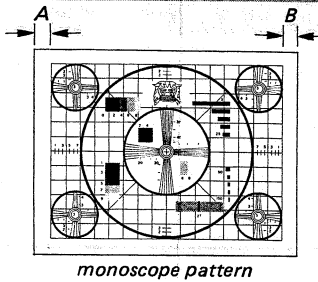
BATELY PROTECTOR ADJUSTMENT

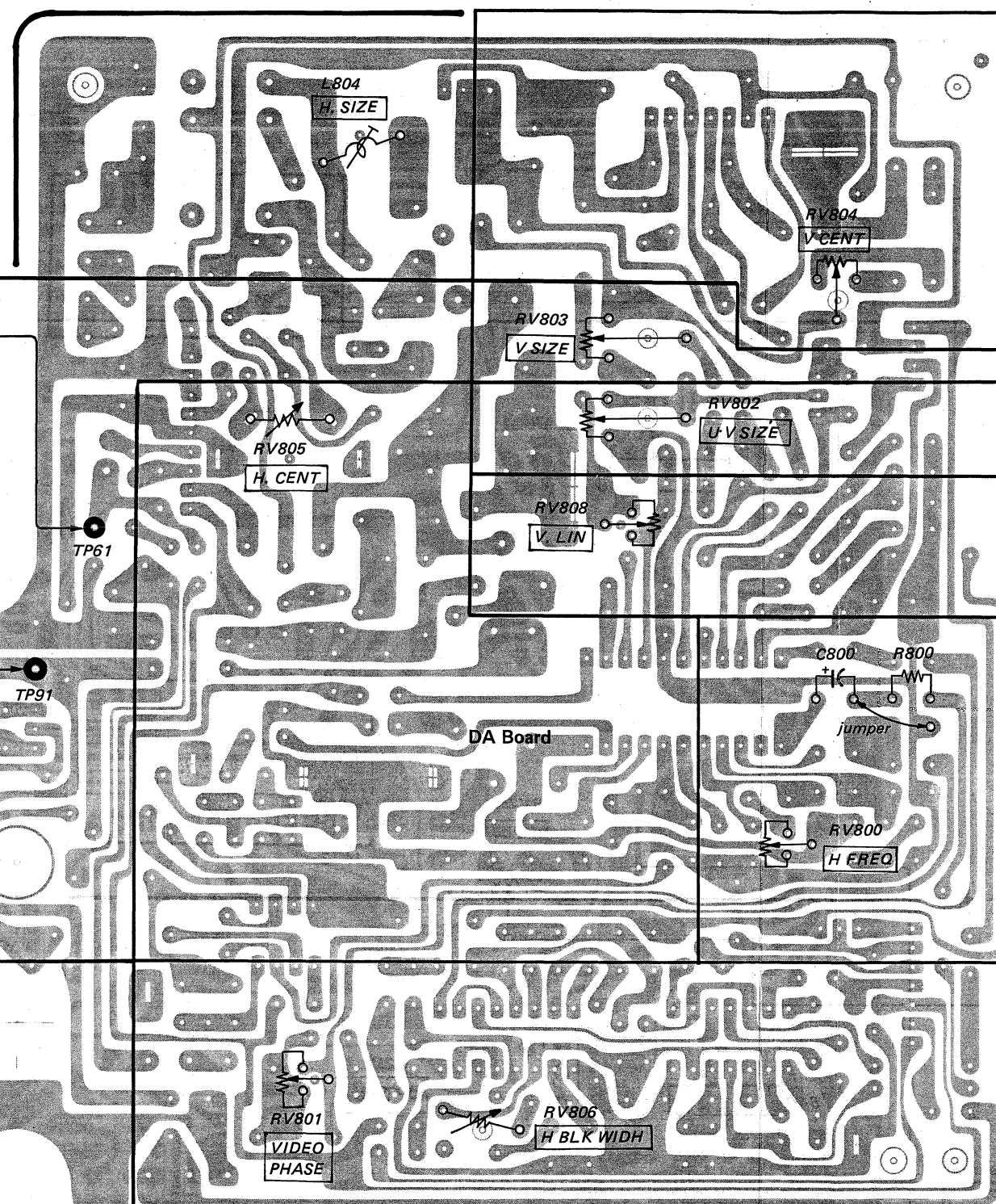
1. Input a 12V DC.
2. Connect a digital multimeter to connector DA-2 pin ①.
3. Adjust RV611 so that voltage $10.2 - 10.3$ V DC.
4. Confirm that the battely protector operate.



H BLANKING ADJUSTMENT

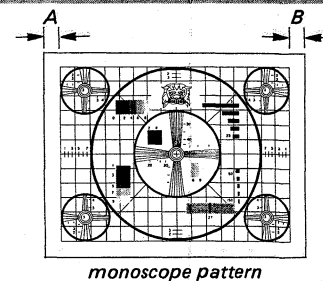
1. Input a PAL monoscope signal.
PICTURE 80%
BRIGHT 50%
SCAN UNDER
2. Adjust VIDEO PHASE (RV801) and H. BLK WIDH (RV806) to be $A = B$, as shown in the figure.





H BLANKING ADJUSTMENT

1. Input a PAL monoscope signal.
PICTURE 80%
BRIGHT 50%
SCAN UNDER
2. Adjust VIDEO PHASE (RV801) and H. BLK WIDH (RV806) to be $A = B$, as shown in the figure.



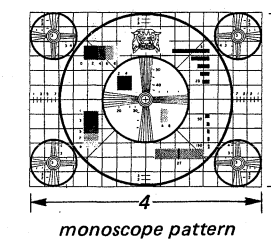
monoscope pattern

V. CENT ADJUSTMENT

1. Input a PAL monoscope signal.
PICTURE 80%
BRIGHT 50%
2. Adjust with V. CENT (RV804) so that picture is centered.

V. SIZE ADJUSTMENT

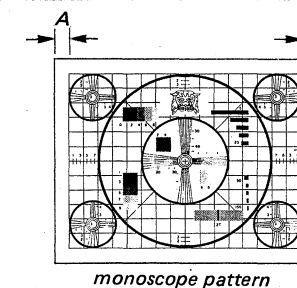
1. Input a PAL monoscope signal.
PICTURE 80%
BRIGHT 50%
2. Set the V. SIZE (RV803) to obtain a suitable picture.



monoscope pattern

UNDER-SCAN V. SIZE ADJUSTMENT

1. Input a PAL monoscope signal.
PICTURE .80%
BRIGHT .50%
SCAN . . . UNDER
2. Adjust UN V. SIZE (RV802) so that the monoscope pattern of H. SIZE and V. SIZE is 4:3.



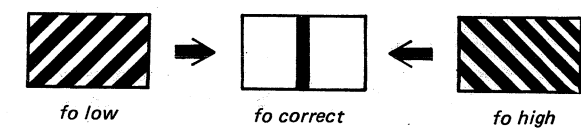
monoscope pattern

V. LINE ADJUSTMENT

1. Input a PAL monoscope signal.
PICTURE 80%
BRIGHT 50%
2. Adjust V. LINE (RV808) so that the monoscope pattern of A and B is same scal.

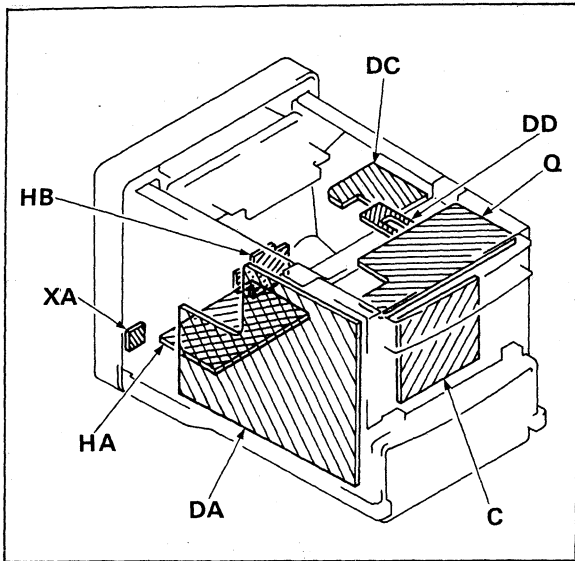
H. FREQ ADJUSTMENT

1. Input a PAL monoscope signal.
PICTURE 80%
BRIGHT 50%
2. Connect a jumper between C800 minus side and ground.
3. Adjust with H. FREQ (RV800) as shown in figure.

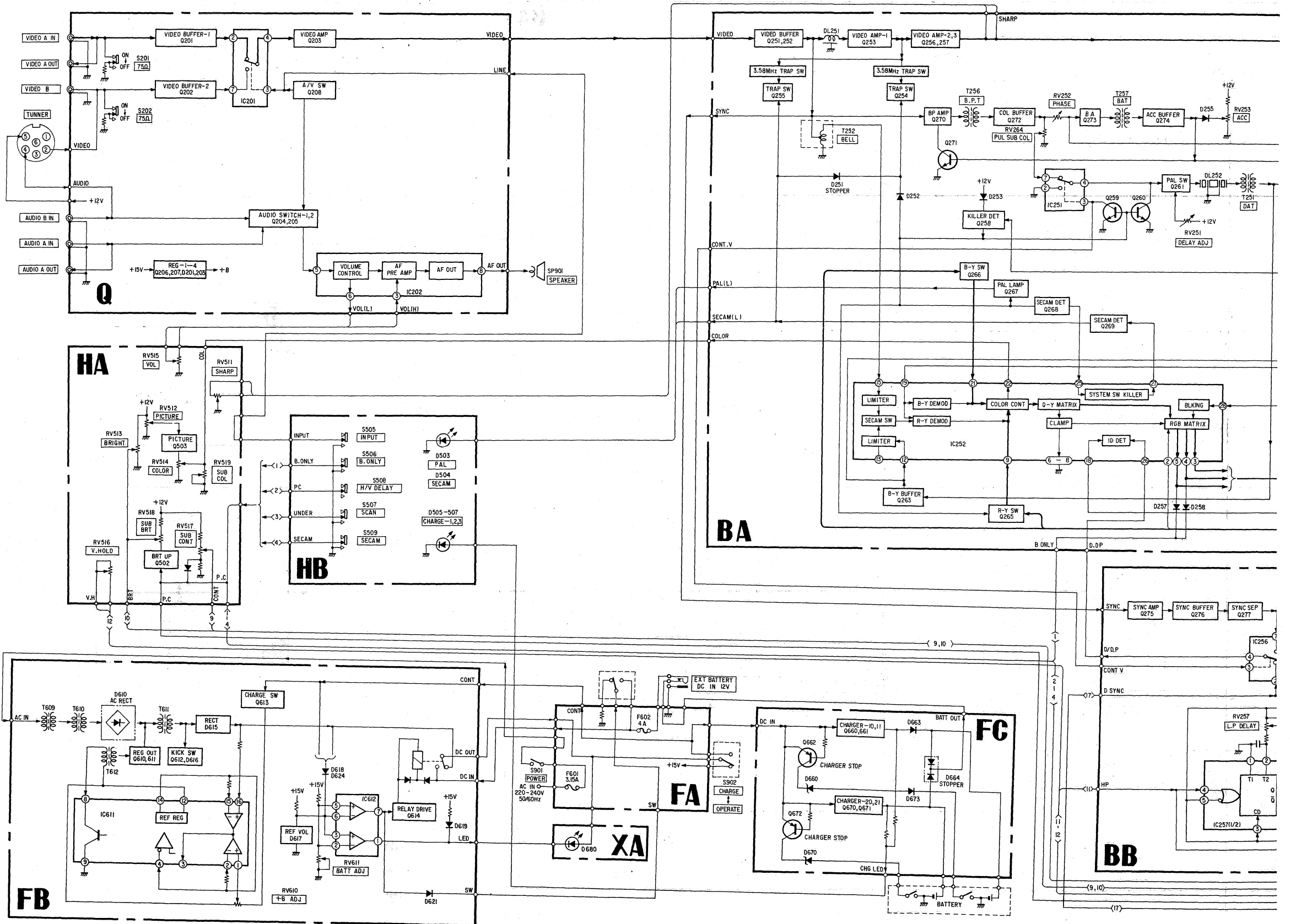


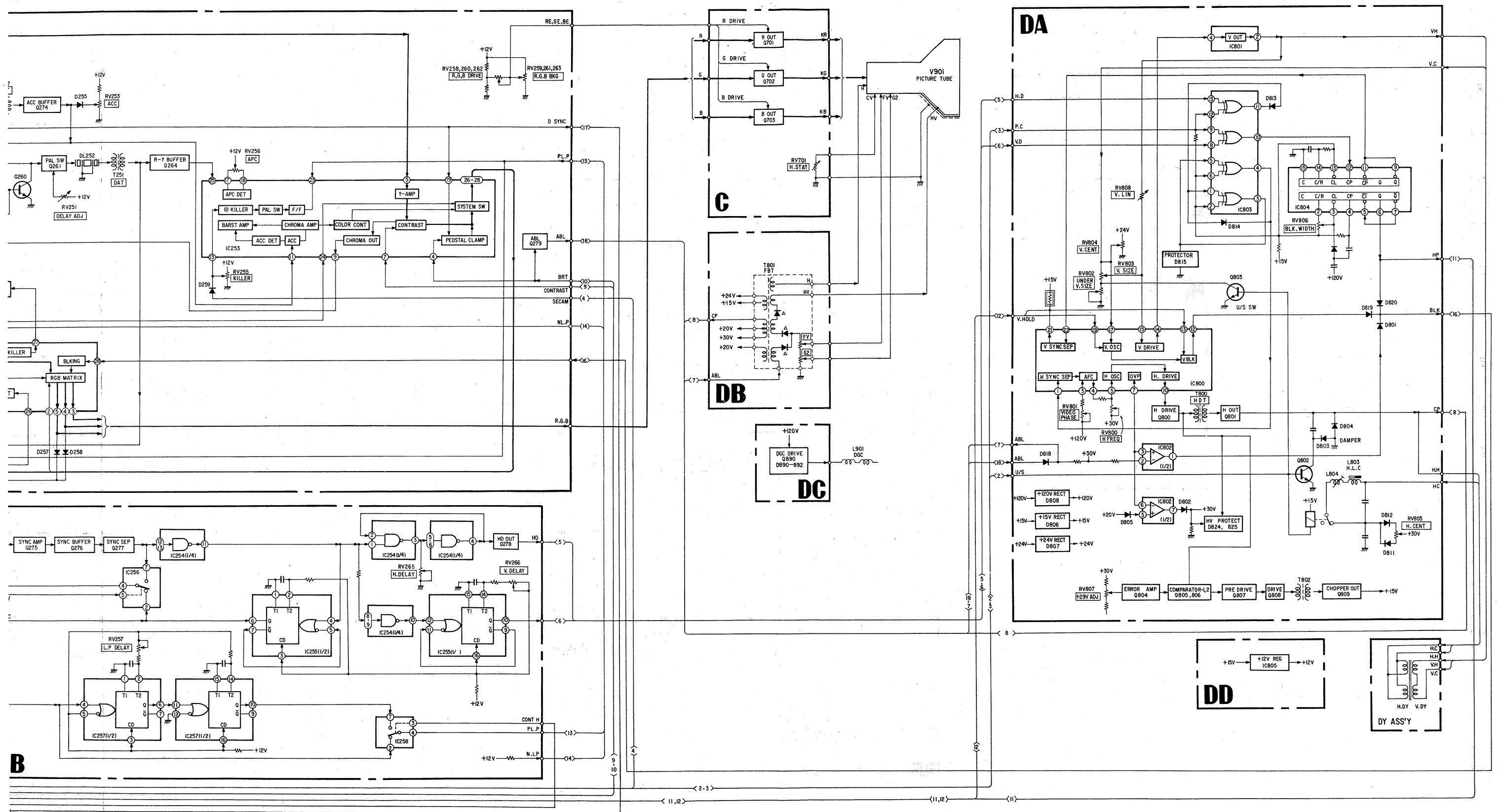
SECTION 4 DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION



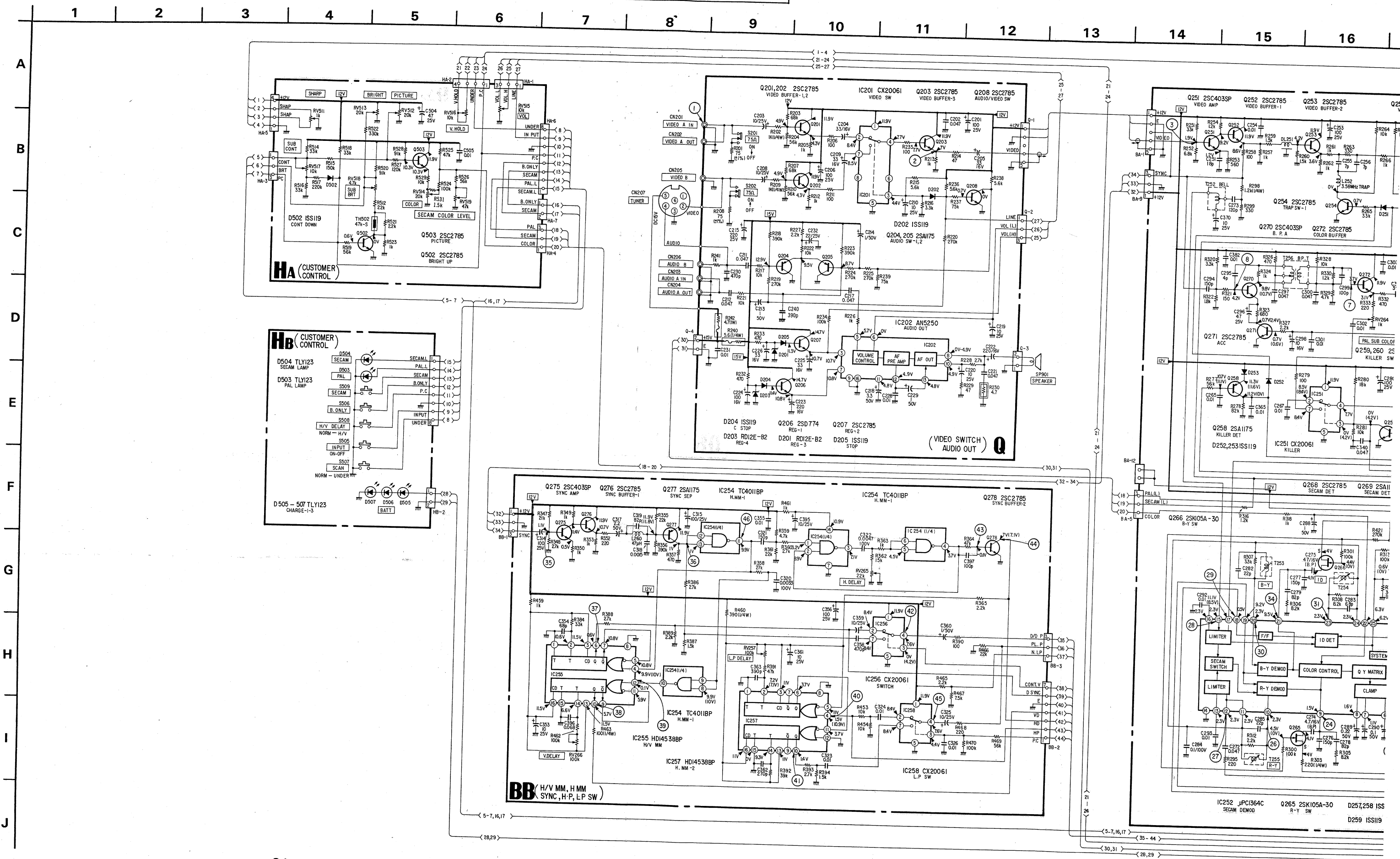
4-2. BLOCK DIAGRAM

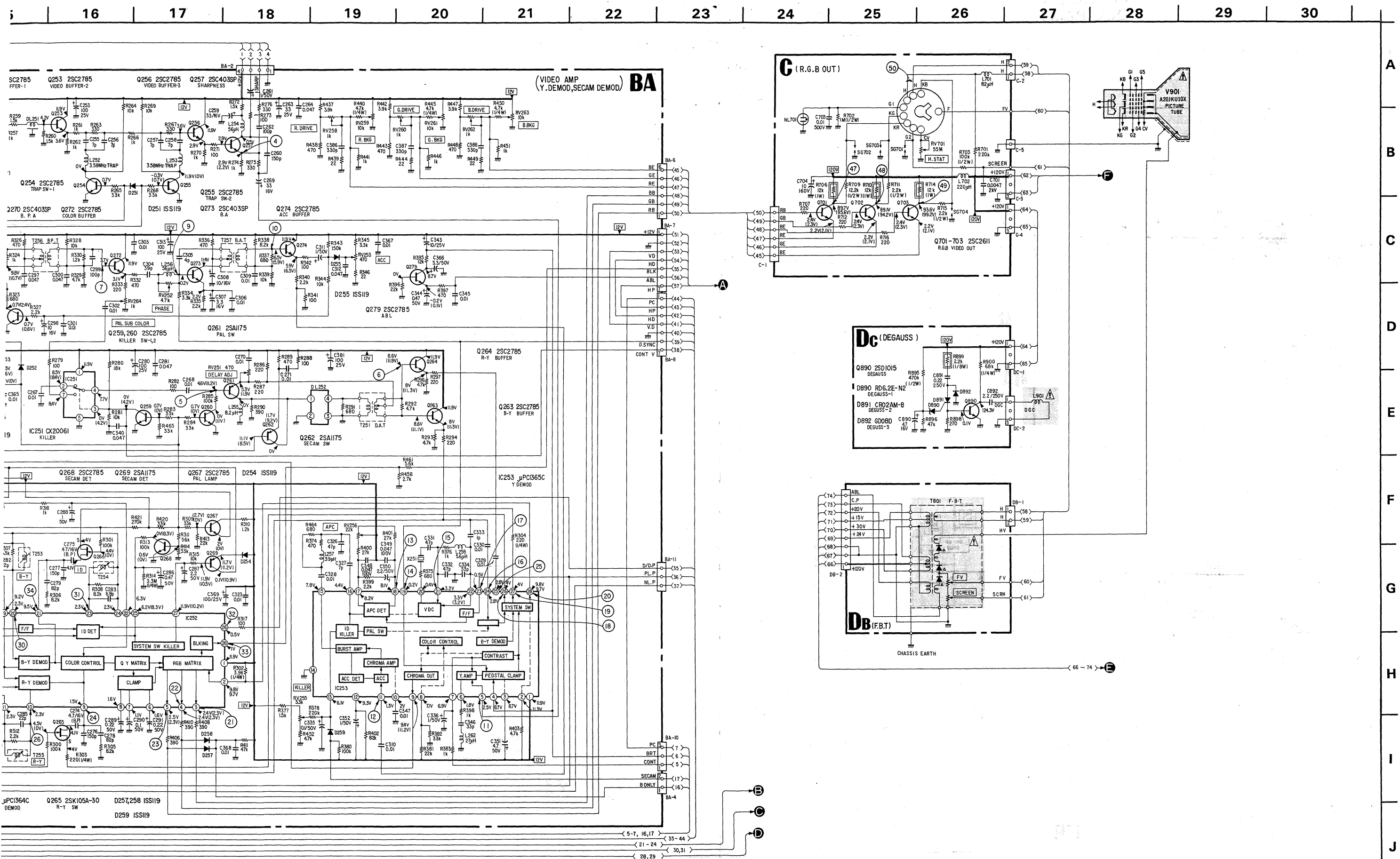





4.3. SCHEMATIC DIAGRAM





PVM-9020ME PVM-9020ME

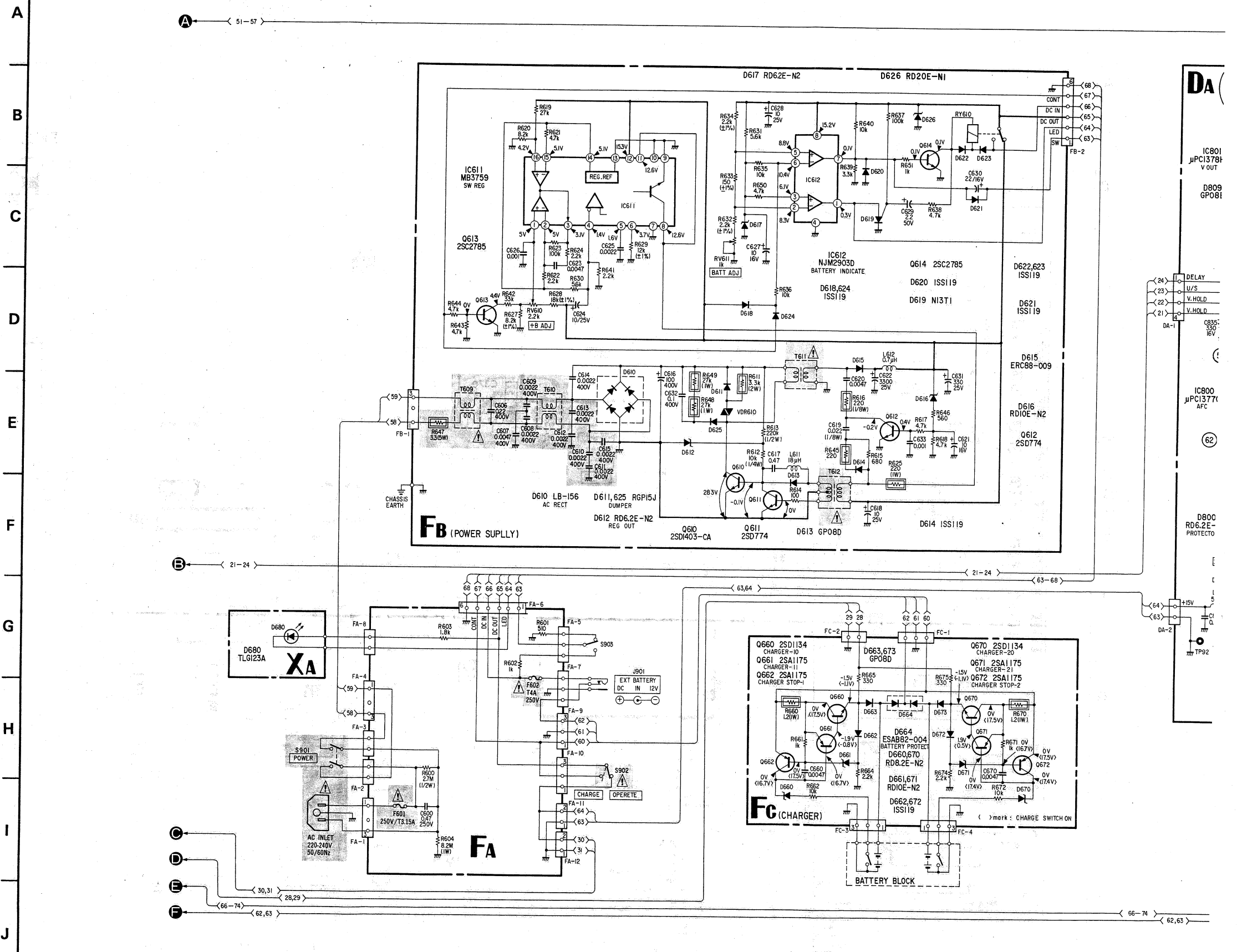




Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Note:

- All capacitors are in μF unless otherwise noted. p : μF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/6W unless otherwise noted. k : 1000 Ω , M : 1000k Ω
-  : Nonflammable resistor
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
-  : Fusible resistor
- Δ : internal component.
-  : panel designation.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10M Ω digital multimeter.
- Voltage variations may be noted due to normal production tolerances.
-  : adjustment for repair.
- Voltage on FB board is taken with Q610 Emitter.
- Readings are taken with a color-bar signal input. no mark : with PAL color-bar signal received. () : with SECAM color-bar signal received.
- Circled numbers (① - ⑦⑨) are waveform references. Refer to waveform on page 39.
- Refer to waveform on page 39, 40.



11 12 13 14 15 16 17 18 19 20 21 22

A

B

C

D

E

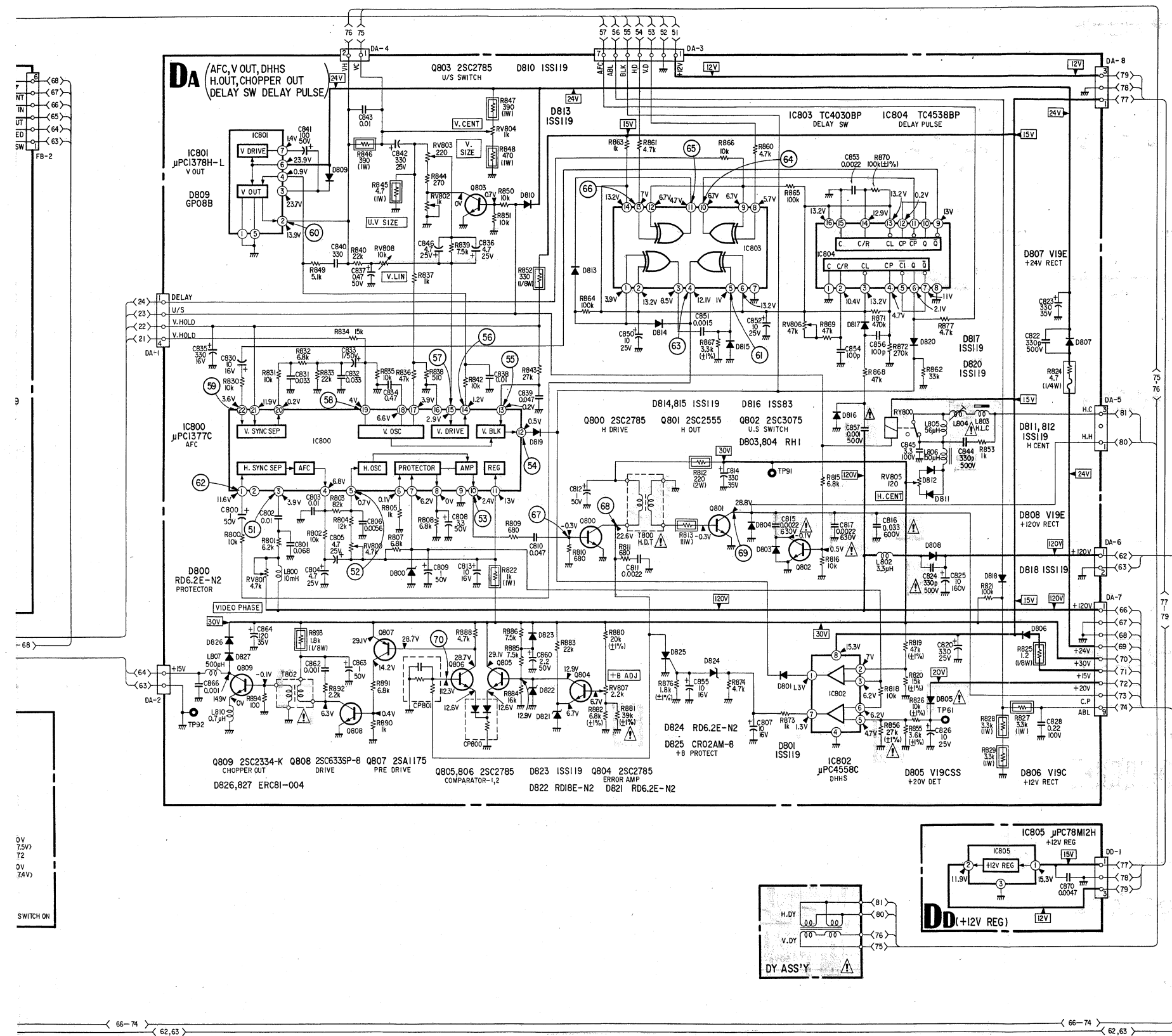
F

G

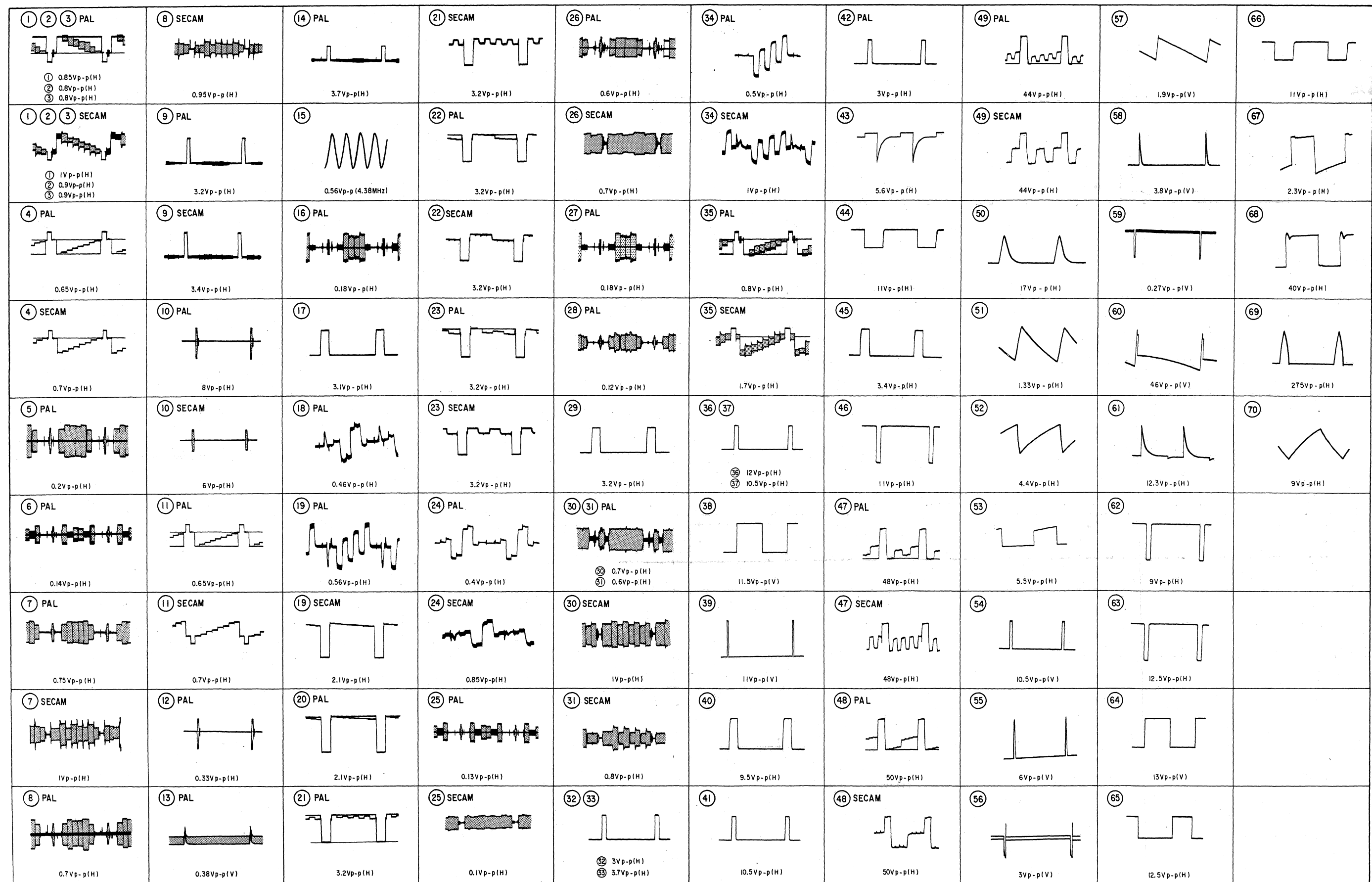
H

I

J



4-4. WAVEFORMS



4-5. PRINTED
- Condi

A

B

C

D

E

F

G

H

I

VIDEO AMP
Y. DEMOD, S

BA

BA

C.

[R. G. B OUT]

HB

CUSTOMER CONTROL

4-5. PRINTED WIRING BOARDS

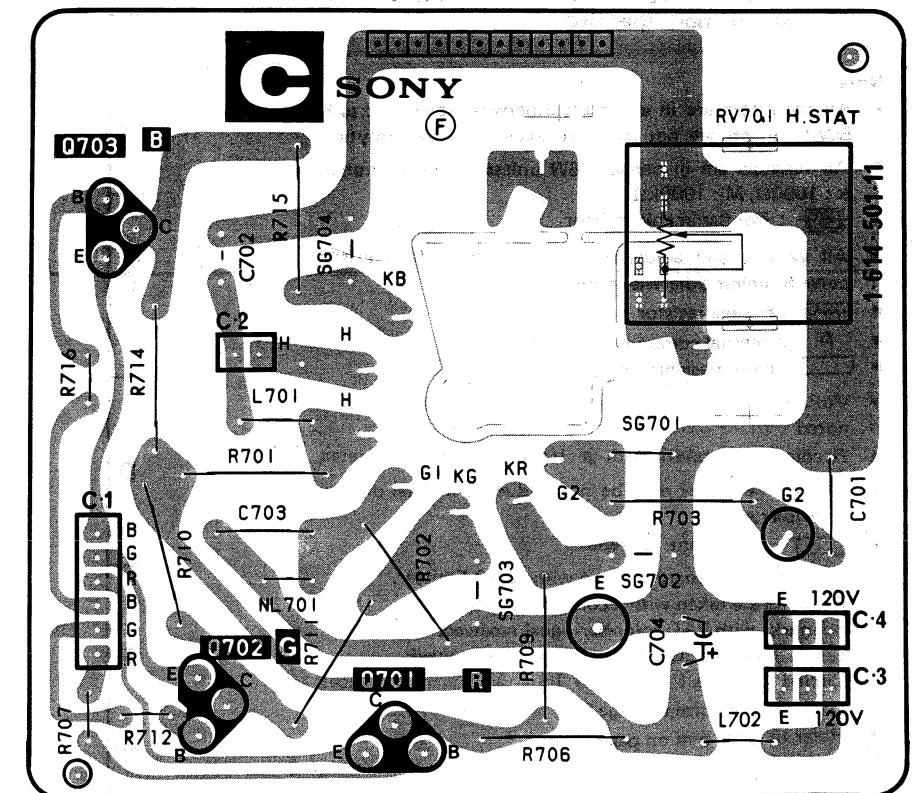
— Conductor Side —

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----

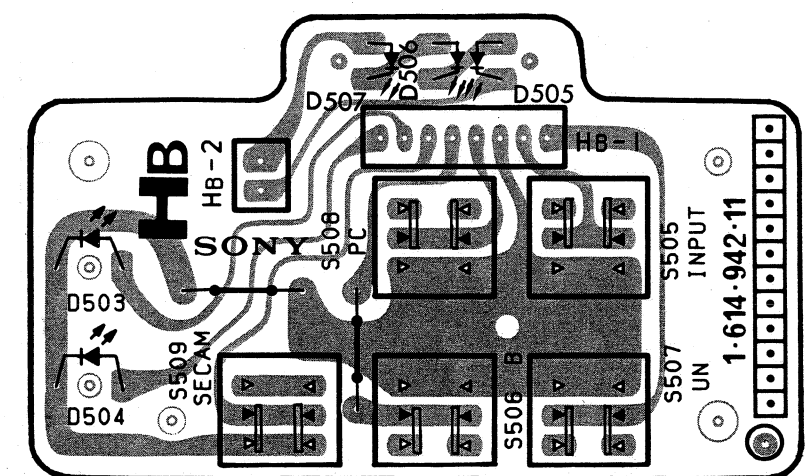
— BA Board —

Q	267	268	269	IC252	263	264	262	261	260
IC	252	253	254	258	257	271	274	273	259
D	251	255	252	253	255	270	272	272	272
ADJ	RV258	RV263	RV255	RV256	RV251	RV264	RV252	AD	

— C Board —



— HB Board —



PVM-9020ME PVM-9020ME

AFC, V. OUT, DHHS
H. OUT, CHOPPER OUT
DELAY SW DELAY PULSE

DA

DA

DC

[DEGAUSS]

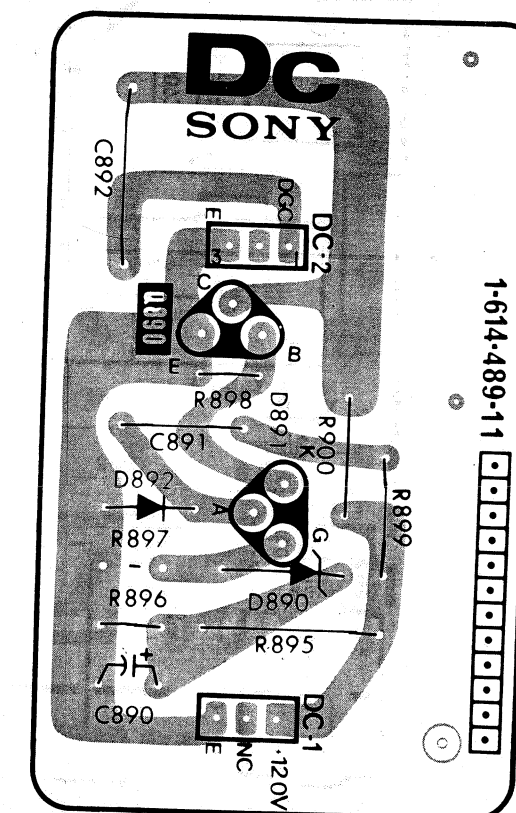
DD

[+12V REG]

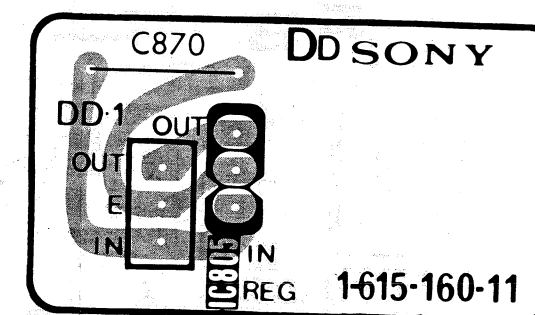
— DA Board —

Q	IC	805 806 807 804 809 808	800 802 801 803 IC802 IC804 IC801 IC803	Q
D	827 826 823 822 821 824 808 825 805 806 812 807 811 819 803 816 820 801 804 800 815 814 813 818			D
ADJ	RV807 RV805 RV801 RV806 RV803 RV802 RV808 RV800 RV804			ADJ

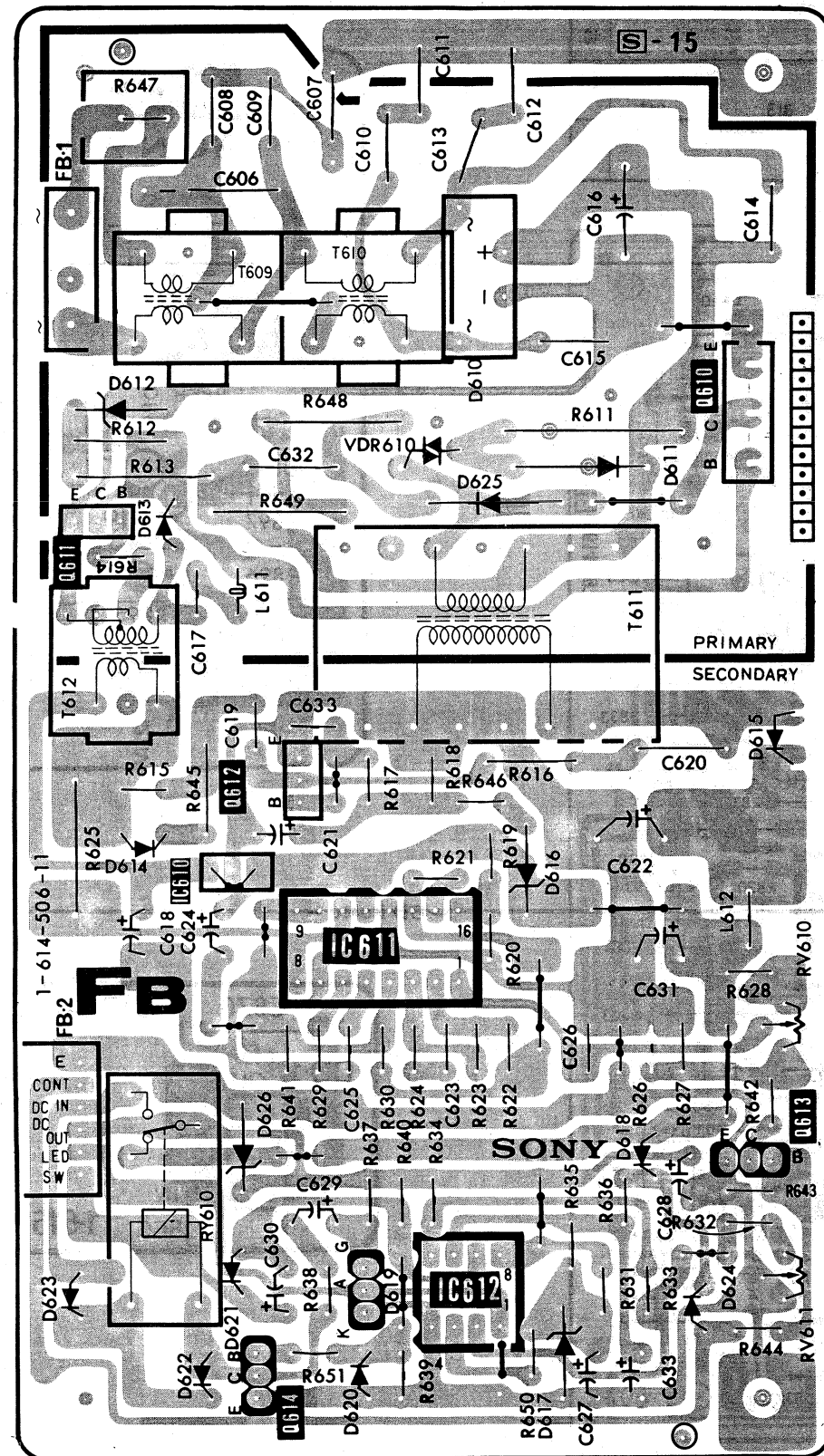
— DC Board —



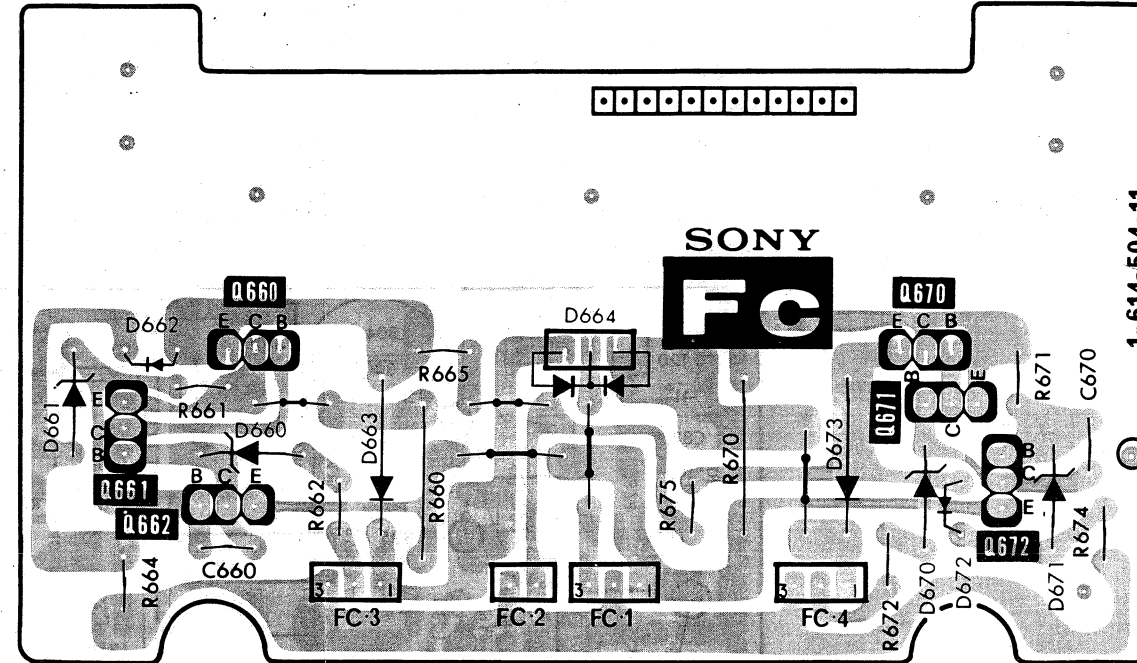
— DD Board —



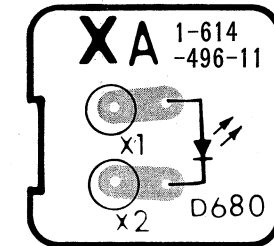
— FB Board —



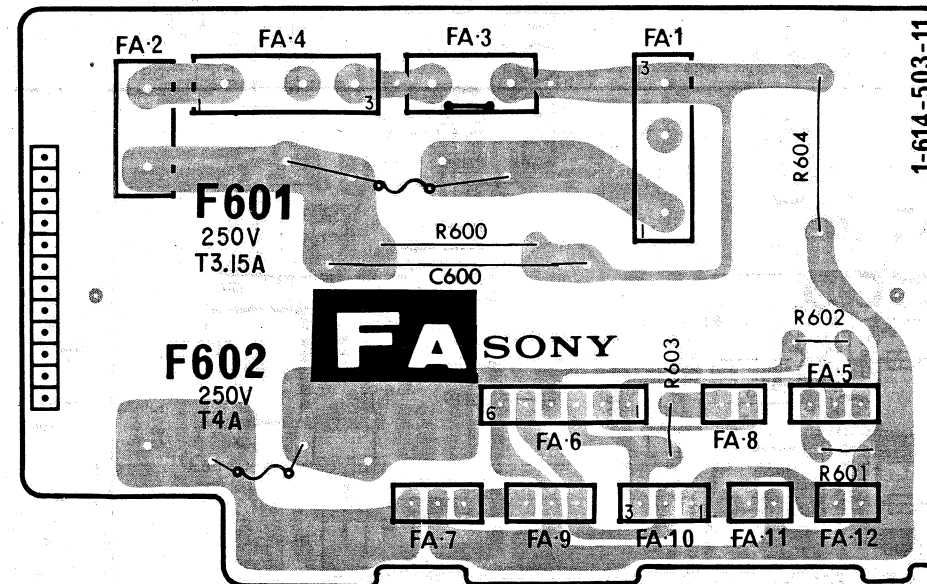
— FC Board —



— XA Board —



— FA Board —



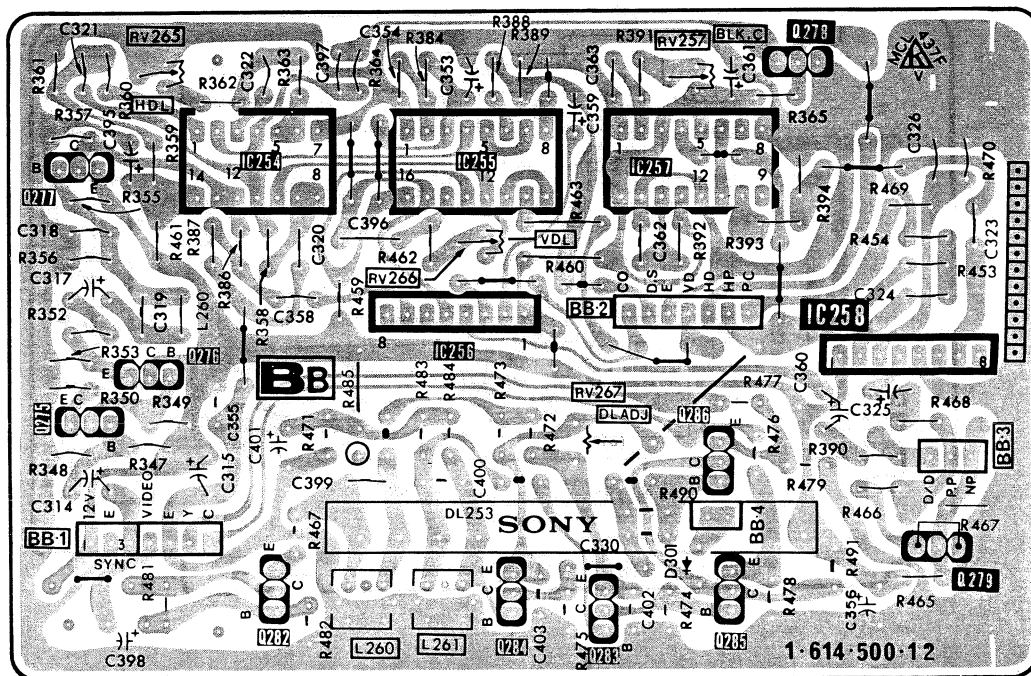
[H/V MM, H MM
SYNC, H-P, L-P SW]

BB

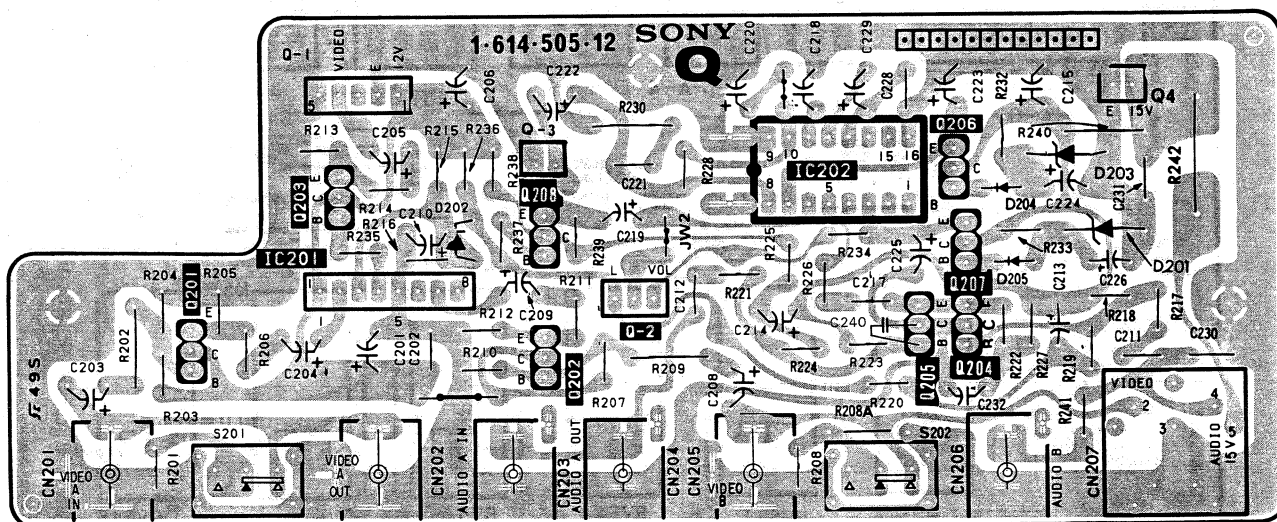
[VIDEO SWITCH
AUDIO OUT]

Q

— BB Board —



— Q Board —



[F. B. I.]

**[CUSTOMER
CONTROL]**

1

2

3

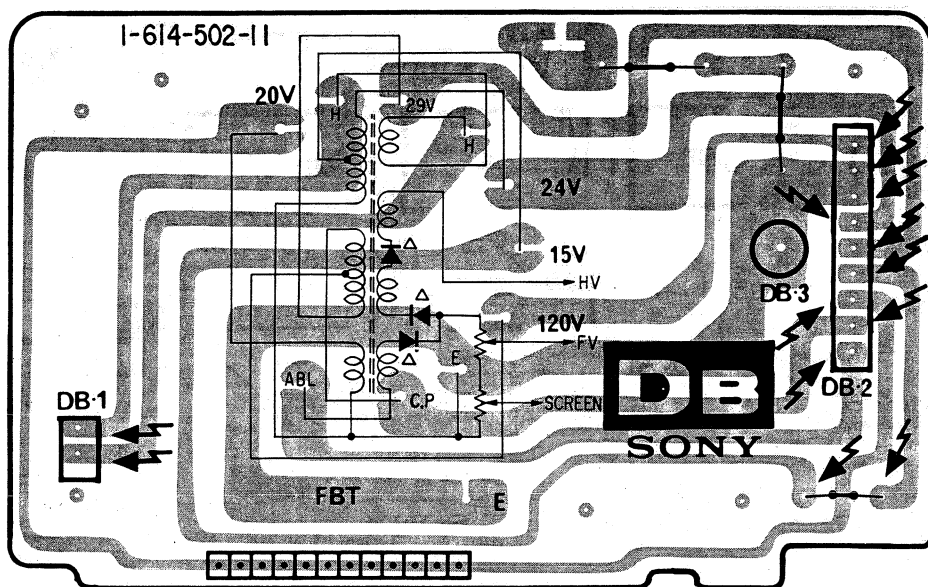
4

5

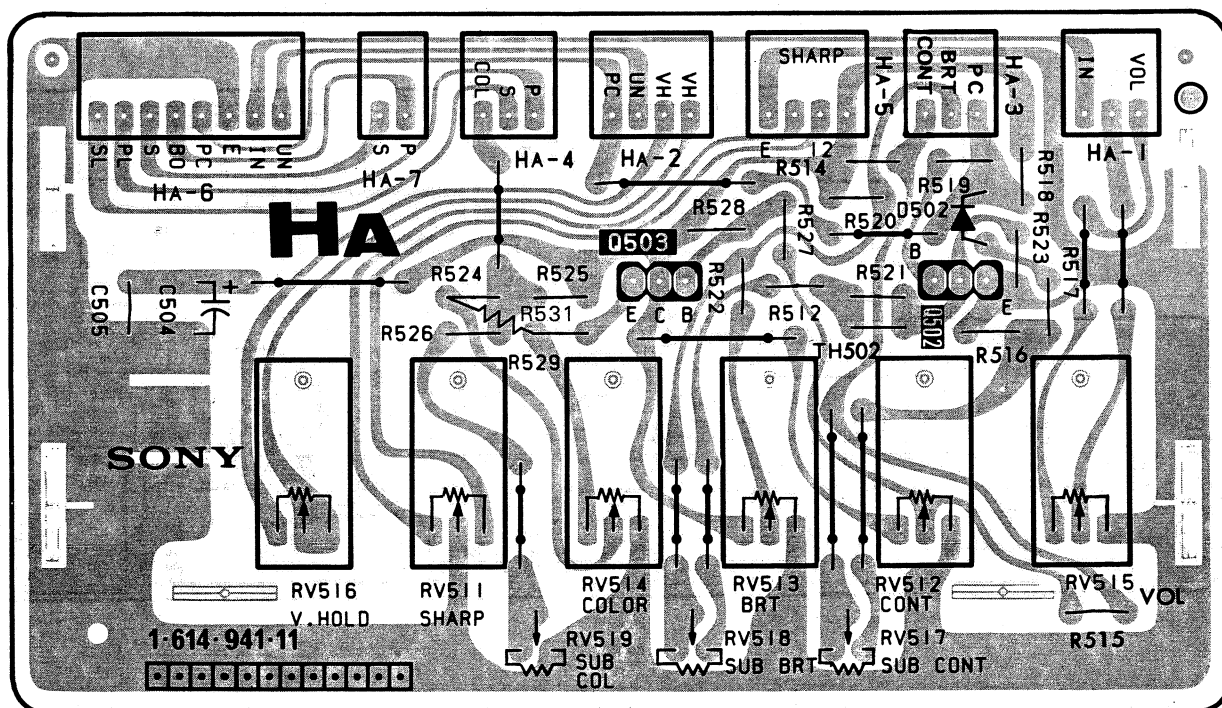
6

7

— DB Board —

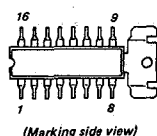


— HA Board —

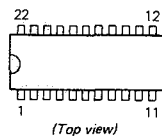


4-6. SEMICONDUCTORS

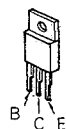
AN5250



μPC1377C



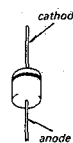
2SC2334
2SD1134



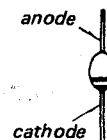
2SK105A-30



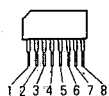
ERC88-009



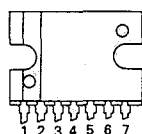
V19C
V19CSS
V19E



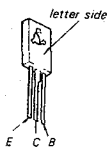
CX20061



μPC1378H-L

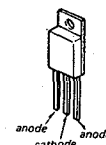


2SC2456
2SC2611

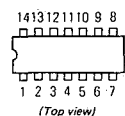


1SS83
1S1555
1S2076
ERC81-004
HZ11A
HZ18
RD10E-N2
RD12E-B2
RD18E-N2
RD20E-N1
RD20E-N2
RD20E-N3
RD20E-N4
RD6.2E-N2
RD8.2E-N2

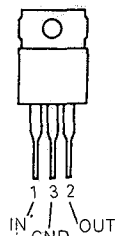
ESAB82-004
ESAC82-004



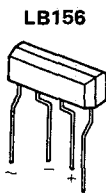
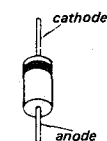
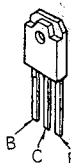
HD14011BP
TC4011BP
TC4030BP
μPD4030BC



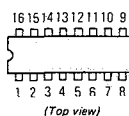
μPC78M12H



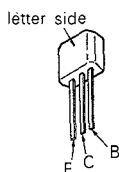
2SC2555



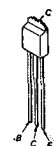
HD14538BP
TC4538BP



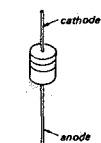
2SA1048-GR
2SA1115
2SC633SP
2SC2458
2SC2603
2SC403SP



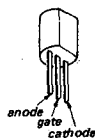
2SC3075



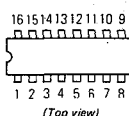
1SS119
1SS133
1SS148



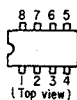
N13T1



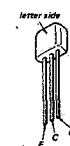
MB3759



BA4558
NJM2903D
NJM4558D
μPC4558C



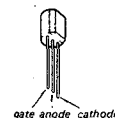
2SA1175
2SC2785



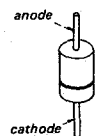
2SD1403-CA



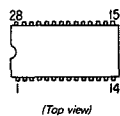
CR02AM-4
CR02AM-8



RDG15J



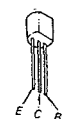
μPC1364C
μPC1365C



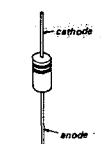
2SA933S
2SC1740S



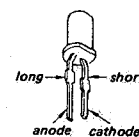
2SD1015



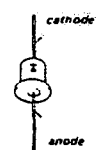
ERC24-06S
GP08B
GP08D
RH1
RH1A



TLG123A
TLR123
TLY123



U05G



SECTION 5 EXPLODED VIEWS

NOTE:

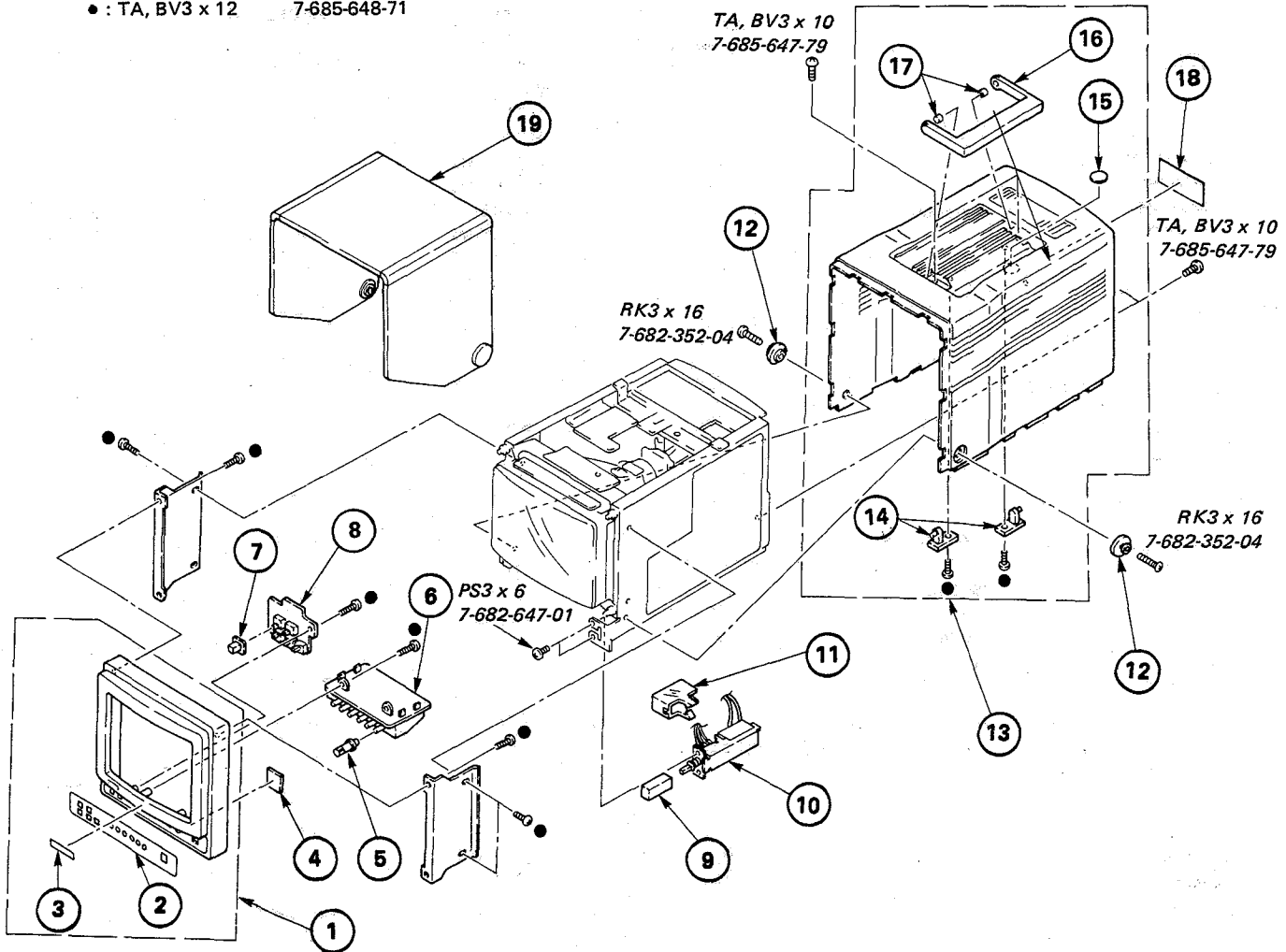
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

5-1. BEZEL, CABINET

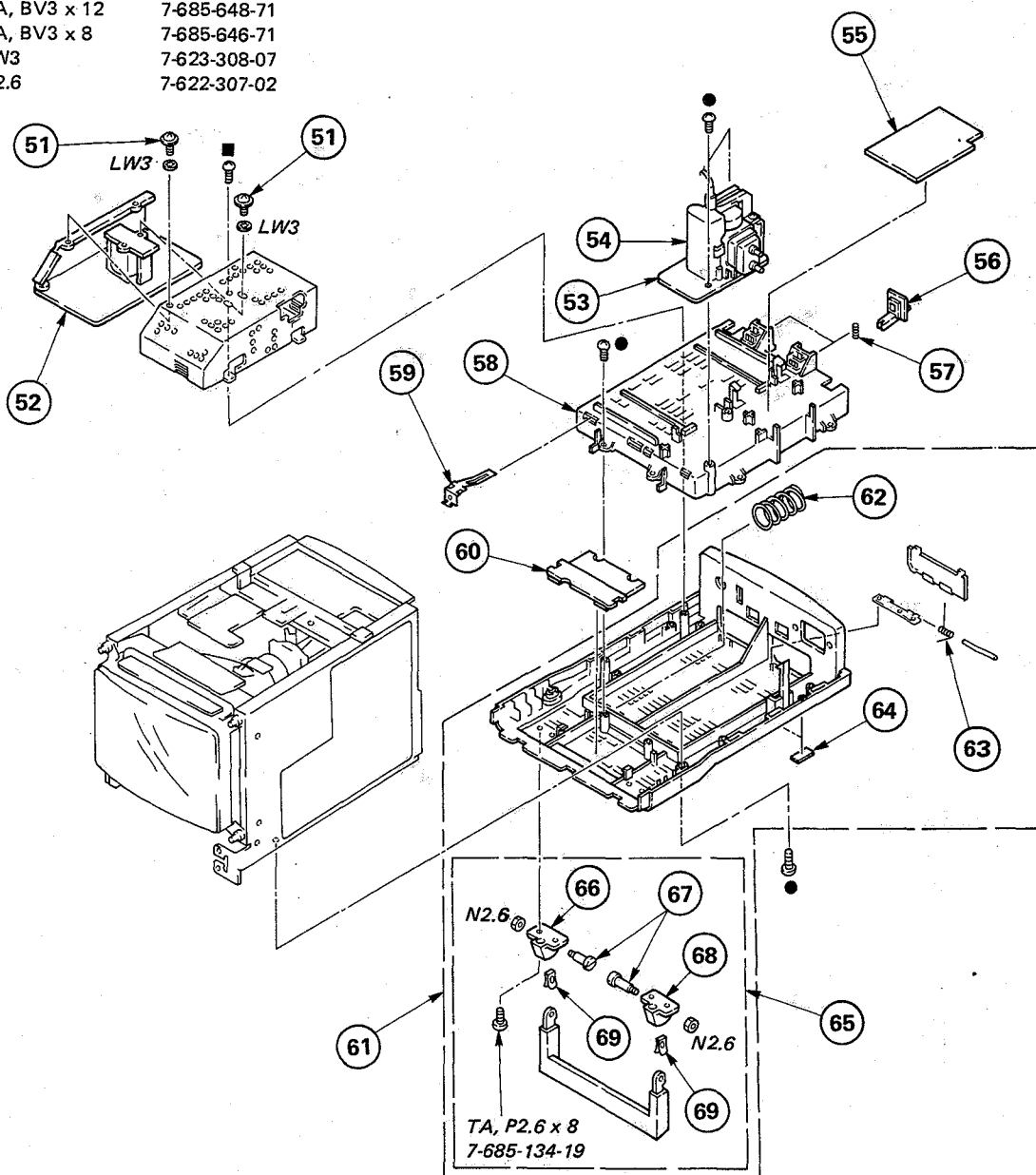
• : TA, BV3 x 12 7-685-648-71



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-4374-805-2	BEZEL ASSY	2,3	11	*4-374-825-01	COVER, SWITCH	
2	4-374-830-11	LABEL, CONTROL		12	3-888-404-11	SHAFT, BELT	
3	3-566-707-11	EMBLEM, SONY		13	X-4374-807-1	CABINET ASSY	14-17
4	*1-614-496-11	XA BOARD		14	*4-361-411-01	SHAFT, HANDLE	
5	4-374-820-01	KNOB, CONTROL		15	9-911-840-XX	SPACER, SIDE	
6	*1-614-941-11	HA BOARD		16	4-361-428-21	HANDLE	
7	4-369-627-11	PUSH BUTTON		17	*4-361-410-00	SPACER, HANDLE	
8	*1-614-942-11	HB BOARD		18	*4-374-847-01	LABEL, MODEL NUMBER (LARGE)	
9	4-374-839-01	BUTTON (A)		19	4-374-831-01	HOOD (VF-501)	
10	Δ 1-570-201-11	SWITCH, PUSH (AC POWER)(1 KEY)					

5-2. BOTTOM CABINET

- : TA, BV3 x 12 7-685-648-71
- : TA, BV3 x 8 7-685-646-71
- LW3 7-623-308-07
- N2.6 7-622-307-02

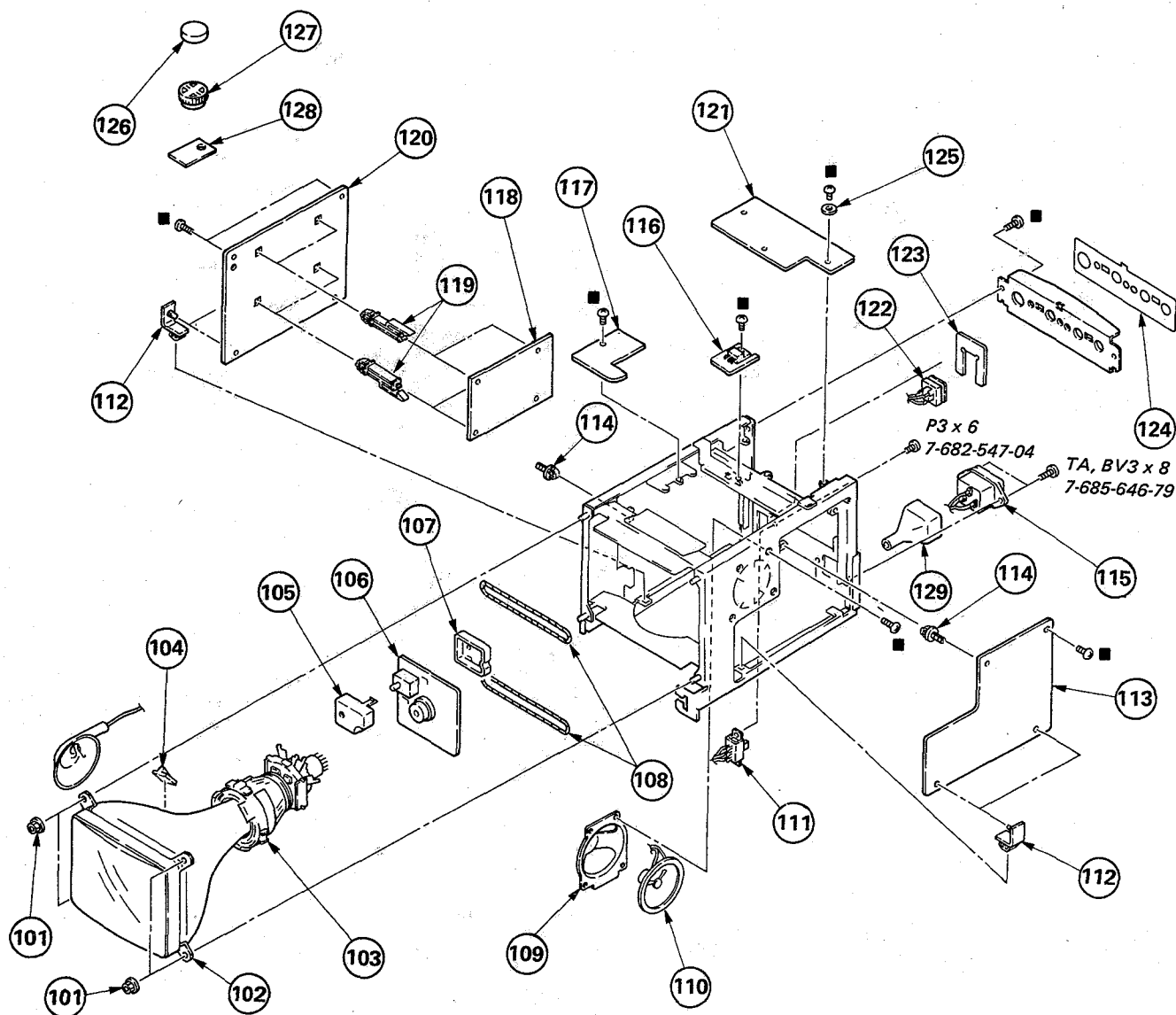


No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	3-701-809-31	SCREW, TERMINAL (M3X8)		61	X-4374-806-1	CABINET ASSY, BOTTOM	62-69
52	*A-1245-263-A	FB BOARD, COMPLETE		62	3-669-594-00	SPRING, COMPRESSION	
53	*1-615-502-11	DB BOARD		63	3-669-592-00	SPRING (A), TORSION	
54	▲1-439-358-11	TRANSFORMER ASSY, FLYBACK		64	9-911-852-XX	CUSHION	
55	*1-614-503-11	FA BOARD		65	X-4374-802-1	LEG ASSY	66-69
56	3-686-028-01	BUTTON, SLIDE		66	4-002-791-00	BRACKET (RIGHT), LEG	
57	4-876-347-01	SPRING, COMPRESSION		67	4-002-789-00	SCREW	
58	*4-374-835-01	HOLDER, BATTERY		68	4-002-790-00	BRACKET (LEFT), LEG	
59	3-669-526-00	TERMINAL		69	4-002-732-02	SPRING	
60	*1-614-504-11	FC BOARD					

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

5-3. CHASSIS

■ : TA, BV3 x 8 7-685-646-71



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
101	4-304-511-00	NUT, FLANGE		116	*1-615-160-11	DD BOARD	
102	▲ 8-737-151-05	CRT (A20JKU10X)		117	*1-614-498-11	DC BOARD	
103	▲ 1-451-265-11	DEFLECTION YOKE (SY-167)		118	*A-1135-295-A	BB BOARD, COMPLETE	
104	4-309-369-00	SPACER, DEFLECTION YOKE		119	*3-657-516-00	SUPPORT, PC BOARD	
105	*4-374-822-01	COVER (A), CONTROL		120	*A-1135-295-A	BA BOARD, COMPLETE	
106	*A-1330-584-A	C BOARD, COMPLETE		121	*A-1270-160-A	Q BOARD, COMPLETE	
107	*4-374-806-01	COVER (B), CONTROL		122	1-507-465-00	JACK, POWER OUTSIDE	
108	▲ 1-426-043-12	COIL, DEGAUSSING		123	*4-374-801-01	STOPPER, JACK, DC	
109	*4-344-240-00	BRACKET, SPEAKER		124	4-374-829-01	LABEL, PANEL	
110	1-502-509-00	SPEAKER		125	4-308-030-00	WASHER	
111	▲ 1-516-046-11	SWITCH, SLIDE		126	1-452-032-00	MAGNET, DISK; 10MM Ø	
112	*3-701-832-00	HINGE, CIRCUIT BOARD		127	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
113	*A-1345-522-A	DA BOARD, COMPLETE		128	1-452-126-11	MAGNET	
114	*4-303-473-00	SUPPORT, PC		129	*4-601-466-11	COVER, 3P INLET	
115	▲ 1-509-547-11	3P INLET					

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

SECTION 6 ELECTRICAL PARTS LIST

BA

NOTE:

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
• MF : μ F, PF : μ PF

RESISTORS
• All resistors are in ohms
• F : nonflammable

COILS
• MMH : mH, UH : μ H

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
	*A-1135-295-A	BA BOARD, COMPLETE *****		C289	1-123-608-00	ELECT	0.22MF 20% 50V
		CONNECTOR		C290	1-123-607-00	ELECT	0.1MF 20% 50V
BA1	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P		C291	1-123-608-00	ELECT	0.22MF 20% 50V
BA2	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		C292	1-102-129-21	CERAMIC	0.01MF 10% 50V
BA4	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C293	1-102-129-21	CERAMIC	0.01MF 10% 50V
BA5	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		C294	1-161-313-00	CERAMIC	150PF 10% 50V
BA6	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		C295	1-102-937-00	CERAMIC	4PF 0.5PF 50V
BA7	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		C296	1-123-332-00	ELECT	47MF 20% 25V
BA8	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		C297	1-101-006-21	CERAMIC	0.047MF 50V
BA9	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		C298	1-123-356-00	ELECT	10MF 20% 16V
BA10	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		C299	1-102-678-00	CERAMIC	100PF 5% 50V
BA11	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P		C300	1-101-006-21	CERAMIC	0.047MF 50V
BA12	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C301	1-101-004-00	CERAMIC	0.01MF 50V
		CAPACITOR		C302	1-101-004-00	CERAMIC	0.01MF 50V
C251	1-102-953-00	CERAMIC	18PF 5% 50V	C303	1-101-004-00	CERAMIC	0.01MF 50V
C253	1-123-333-00	ELECT	100MF 20% 25V	C304	1-102-965-00	CERAMIC	39PF 5% 50V
C254	1-101-004-00	CERAMIC	0.01MF 50V	C305	1-102-937-00	CERAMIC	4PF 0.5PF 50V
C255	1-102-662-00	CERAMIC	7PF 0.5PF 50V	C306	1-102-129-21	CERAMIC	0.01MF 10% 50V
C256	1-102-662-00	CERAMIC	7PF 0.5PF 50V	C307	1-131-368-00	TANTALUM	3.3MF 10% 16V
C257	1-102-662-00	CERAMIC	7PF 0.5PF 50V	C308	1-123-356-00	ELECT	10MF 20% 16V
C258	1-102-662-00	CERAMIC	7PF 0.5PF 50V	C309	1-102-129-21	CERAMIC	0.01MF 10% 50V
C259	1-123-318-00	ELECT	33MF 20% 16V	C310	1-102-129-21	CERAMIC	0.01MF 10% 50V
C260	1-101-361-00	CERAMIC	150PF 5% 50V	C311	1-123-380-00	ELECT	1MF 20% 50V
C261	1-123-380-00	ELECT	1MF 20% 50V	C312	1-101-006-21	CERAMIC	0.047MF 50V
C262	1-102-973-00	CERAMIC	100PF 5% 50V	C313	1-123-333-00	ELECT	100MF 20% 25V
C263	1-123-819-00	ELECT	33MF 20% 25V	C323	1-102-129-21	CERAMIC	0.01MF 10% 50V
C264	1-101-006-21	CERAMIC	0.047MF 50V	C326	1-101-880-00	CERAMIC	47PF 5% 50V
C265	1-101-004-00	CERAMIC	0.01MF 50V	C327	1-102-944-00	CERAMIC	7PF 0.5PF 50V
C267	1-101-004-00	CERAMIC	0.01MF 50V	C328	1-102-129-21	CERAMIC	0.01MF 10% 50V
C268	1-101-004-00	CERAMIC	0.01MF 50V	C329	1-102-129-21	CERAMIC	0.01MF 10% 50V
C269	1-123-318-00	ELECT	33MF 20% 16V	C330	1-102-129-21	CERAMIC	0.01MF 10% 50V
C270	1-102-129-21	CERAMIC	0.01MF 10% 50V	C331	1-101-880-00	CERAMIC	47PF 5% 50V
C271	1-102-129-21	CERAMIC	0.01MF 10% 50V	C332	1-101-880-00	CERAMIC	47PF 5% 50V
C272	1-101-006-21	CERAMIC	0.047MF 50V	C333	1-102-938-00	CERAMIC	1PF 0.5PF 50V
C273	1-102-679-00	CERAMIC	120PF 5% 50V	C334	1-102-963-00	CERAMIC	33PF 5% 50V
C274	1-121-257-00	ELECT	4.7MF 16V	C335	1-123-607-00	ELECT	0.1MF 20% 50V
C275	1-121-257-00	ELECT	4.7MF 16V	C336	1-123-380-00	ELECT	1MF 20% 50V
C276	1-101-361-00	CERAMIC	150PF 5% 50V	C340	1-101-006-21	CERAMIC	0.047MF 50V
C277	1-101-361-00	CERAMIC	150PF 5% 50V	C343	1-123-356-00	ELECT	10MF 20% 25V
C278	1-102-971-00	CERAMIC	82PF 5% 50V	C344	1-123-379-00	ELECT	0.47MF 20% 50V
C279	1-102-971-00	CERAMIC	82PF 5% 50V	C345	1-102-129-21	CERAMIC	0.01MF 10% 50V
C280	1-123-333-00	ELECT	100MF 20% 25V	C346	1-102-963-00	CERAMIC	33PF 5% 50V
C281	1-101-006-21	CERAMIC	0.047MF 50V	C347	1-102-129-21	CERAMIC	0.01MF 10% 50V
C282	1-102-892-00	CERAMIC	22PF 5% 50V	C348	1-106-212-00	MYLAR	0.047MF 10% 100V
C284	1-106-220-00	MYLAR	0.1MF 10% 100V	C349	1-106-212-00	MYLAR	0.047MF 10% 100V
C285	1-102-892-00	CERAMIC	22PF 5% 50V	C350	1-123-381-00	ELECT	2.2MF 20% 50V
C286	1-123-379-00	ELECT	0.47MF 20% 50V	C351	1-123-369-00	ELECT	4.7MF 20% 50V
C287	1-123-381-00	ELECT	2.2MF 20% 50V	C352	1-123-380-00	ELECT	1MF 20% 50V
C288	1-123-380-00	ELECT	1MF 20% 50V	C355	1-102-129-21	CERAMIC	0.01MF 10% 50V
				C366	1-123-382-00	ELECT	3.3MF 20% 50V
				C367	1-101-004-00	CERAMIC	0.01MF 50V
				C368	1-102-129-21	CERAMIC	0.01MF 10% 50V
				C369	1-123-333-00	ELECT	100MF 20% 25V

BA

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C370	1-123-356-00	ELECT 10MF	20% 25V	Q266	8-729-115-30	TRANSISTOR 2SK105A-30	
C381	1-123-333-00	ELECT 100MF	20% 25V	Q267	8-729-245-83	TRANSISTOR 2SC2458	
C382	1-102-129-21	CERAMIC 0.01MF	10% 50V	Q268	8-729-245-83	TRANSISTOR 2SC2458	
C386	1-102-820-00	CERAMIC 330PF	5% 50V	Q269	8-729-204-83	TRANSISTOR 2SA1048GR	
C387	1-102-820-00	CERAMIC 330PF	5% 50V	Q270	8-729-603-50	TRANSISTOR 2SC403SP	
C388	1-102-820-00	CERAMIC 330PF	5% 50V	Q271	8-729-245-83	TRANSISTOR 2SC2458	
<u>DIODE</u>				Q272	8-729-245-83	TRANSISTOR 2SC2458	
D251	8-719-911-19	DIODE 1SS119		Q273	8-729-603-50	TRANSISTOR 2SC403SP	
D252	8-719-911-19	DIODE 1SS119		Q274	8-729-245-83	TRANSISTOR 2SC2458	
D253	8-719-911-19	DIODE 1SS119		Q279	8-729-245-83	TRANSISTOR 2SC2458	
D254	8-719-911-19	DIODE 1SS119		<u>RESISTOR</u>			
D255	8-719-911-19	DIODE 1SS119		R251	1-247-867-00	CARBON 33K 5% 1/6W	
D257	8-719-911-19	DIODE 1SS119		R252	1-247-851-00	CARBON 6.8K 5% 1/6W	
D258	8-719-911-19	DIODE 1SS119		R253	1-247-825-00	CARBON 560 5% 1/6W	
D259	8-719-911-19	DIODE 1SS119		R254	1-247-833-00	CARBON 1.2K 5% 1/6W	
<u>DELAY LINE</u>				R257	1-247-831-00	CARBON 1K 5% 1/6W	
DL251	1-415-330-00	DELAY LINE, Y		R259	1-247-835-00	CARBON 1.5K 5% 1/6W	
DL252	1-415-122-31	DELAY LINE, 1H (PAL)		R260	1-247-835-00	CARBON 1.5K 5% 1/6W	
<u>IC</u>				R261	1-247-831-00	CARBON 1K 5% 1/6W	
IC251	8-752-006-10	IC CX20061		R262	1-247-831-00	CARBON 1K 5% 1/6W	
IC252	8-759-100-15	IC UPC1364C		R263	1-247-819-00	CARBON 330 5% 1/6W	
IC253	8-759-113-65	IC UPC1365C		R264	1-247-855-00	CARBON 10K 5% 1/6W	
<u>COIL</u>				R265	1-247-867-00	CARBON 33K 5% 1/6W	
L252	1-409-193-00	COIL 3.58MHZ TRAP		R266	1-247-831-00	CARBON 1K 5% 1/6W	
L253	1-409-193-00	COIL 3.58MHZ TRAP		R267	1-247-819-00	CARBON 330 5% 1/6W	
L254	1-408-418-00	MICRO INDUCTOR 56UH		R268	1-247-867-00	CARBON 33K 5% 1/6W	
L255	1-408-408-00	MICRO INDUCTOR 8.2UH		R269	1-247-855-00	CARBON 10K 5% 1/6W	
L256	1-408-418-00	MICRO INDUCTOR 56UH		R270	1-247-831-00	CARBON 1K 5% 1/6W	
L257	1-408-416-00	MICRO INDUCTOR 39UH		R271	1-247-807-00	CARBON 100 5% 1/6W	
L258	1-408-406-00	MICRO INDUCTOR 5.6UH		R272	1-247-835-00	CARBON 1.5K 5% 1/6W	
L262	1-408-414-00	MICRO INDUCTOR 27UH		R273	1-247-807-00	CARBON 100 5% 1/6W	
<u>TRANSISTOR</u>				R274	1-247-831-00	CARBON 1K 5% 1/6W	
Q251	8-729-603-50	TRANSISTOR 2SC403SP		R275	1-247-819-00	CARBON 330 5% 1/6W	
Q252	8-729-245-83	TRANSISTOR 2SC2458		R276	1-247-819-00	CARBON 330 5% 1/6W	
Q253	8-729-245-83	TRANSISTOR 2SC2458		R277	1-247-873-00	CARBON 56K 5% 1/6W	
Q254	8-729-245-83	TRANSISTOR 2SC2458		R278	1-247-877-00	CARBON 82K 5% 1/6W	
Q255	8-729-245-83	TRANSISTOR 2SC2458		R279	1-247-807-00	CARBON 100 5% 1/6W	
Q256	8-729-245-83	TRANSISTOR 2SC2458		R280	1-247-861-00	CARBON 18K 5% 1/6W	
Q257	8-729-603-50	TRANSISTOR 2SC403SP		R281	1-247-855-00	CARBON 10K 5% 1/6W	
Q258	8-729-204-83	TRANSISTOR 2SA1048GR		R282	1-247-807-00	CARBON 100 5% 1/6W	
Q259	8-729-245-83	TRANSISTOR 2SC2458		R283	1-247-867-00	CARBON 33K 5% 1/6W	
Q260	8-729-245-83	TRANSISTOR 2SC2458		R284	1-247-867-00	CARBON 33K 5% 1/6W	
Q261	8-729-204-83	TRANSISTOR 2SA1048GR		R285	1-247-879-00	CARBON 100K 5% 1/6W	
Q262	8-729-204-83	TRANSISTOR 2SA1048GR		R286	1-247-815-00	CARBON 220 5% 1/6W	
Q263	8-729-245-83	TRANSISTOR 2SC2458		R287	1-247-815-00	CARBON 220 5% 1/6W	
Q264	8-729-245-83	TRANSISTOR 2SC2458		R288	1-247-807-00	CARBON 100 5% 1/6W	
Q265	8-729-115-30	TRANSISTOR 2SK105A-30		R289	1-247-823-00	CARBON 470 5% 1/6W	
				R290	1-247-821-00	CARBON 390 5% 1/6W	
				R291	1-247-827-00	CARBON 680 5% 1/6W	
				R292	1-247-847-00	CARBON 4.7K 5% 1/6W	
				R293	1-247-847-00	CARBON 4.7K 5% 1/6W	

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R294	1-247-815-00	CARBON	220 5% 1/6W	R377	1-247-835-00	CARBON	1.5K 5% 1/6W
R295	1-247-815-00	CARBON	220 5% 1/6W	R378	1-247-887-00	CARBON	220K 5% 1/6W
R296	1-247-847-00	CARBON	4.7K 5% 1/6W	R380	1-247-879-00	CARBON	100K 5% 1/6W
R297	1-247-815-00	CARBON	220 5% 1/6W	R381	1-247-863-00	CARBON	22K 5% 1/6W
R298	1-247-133-00	CARBON	1.2K 5% 1/4W	R382	1-247-867-00	CARBON	33K 5% 1/6W
R299	1-247-819-00	CARBON	330 5% 1/6W	R383	1-247-831-00	CARBON	1K 5% 1/6W
R300	1-247-879-00	CARBON	100K 5% 1/6W	R395	1-247-857-00	CARBON	12K 5% 1/6W
R301	1-247-879-00	CARBON	100K 5% 1/6W	R396	1-247-863-00	CARBON	22K 5% 1/6W
R302	1-247-145-00	CARBON	3.9K 5% 1/4W	R397	1-247-823-00	CARBON	470 5% 1/6W
R303	1-247-115-00	CARBON	220 5% 1/4W	R398	1-247-831-00	CARBON	1K 5% 1/6W
R304	1-247-115-00	CARBON	220 5% 1/4W	R399	1-249-421-11	CARBON	2.2K 5% 1/6W
R305	1-247-853-00	CARBON	8.2K 5% 1/6W	R400	1-247-865-00	CARBON	27K 5% 1/6W
R306	1-247-853-00	CARBON	8.2K 5% 1/6W	R401	1-247-865-00	CARBON	27K 5% 1/6W
R307	1-247-843-00	CARBON	3.3K 5% 1/6W	R402	1-247-877-00	CARBON	82K 5% 1/6W
R308	1-247-853-00	CARBON	8.2K 5% 1/6W	R403	1-247-847-00	CARBON	4.7K 5% 1/6W
R309	1-247-867-00	CARBON	33K 5% 1/6W	R406	1-247-821-00	CARBON	390 5% 1/6W
R310	1-247-833-00	CARBON	1.2K 5% 1/6W	R408	1-247-821-00	CARBON	390 5% 1/6W
R311	1-247-873-00	CARBON	56K 5% 1/6W	R410	1-247-821-00	CARBON	390 5% 1/6W
R312	1-249-421-11	CARBON	2.2K 5% 1/6W	R411	1-247-871-00	CARBON	47K 5% 1/6W
R313	1-247-879-00	CARBON	100K 5% 1/6W	R413	1-247-863-00	CARBON	22K 5% 1/6W
R314	1-210-825-00	SOLID	3.3M 5% 1/4W	R414	1-247-867-00	CARBON	33K 5% 1/6W
R315	1-247-855-00	CARBON	10K 5% 1/6W	R420	1-247-171-00	CARBON	47K 5% 1/4W
R316	1-247-833-00	CARBON	1.2K 5% 1/6W	R421	1-247-889-00	CARBON	270K 5% 1/6W
R317	1-247-807-00	CARBON	100 5% 1/6W	R437	1-247-845-00	CARBON	3.9K 5% 1/6W
R318	1-247-831-00	CARBON	1K 5% 1/6W	R438	1-247-823-00	CARBON	470 5% 1/6W
R320	1-247-843-00	CARBON	3.3K 5% 1/6W	R439	1-247-791-00	CARBON	22 5% 1/6W
R321	1-247-811-00	CARBON	150 5% 1/6W	R440	1-247-147-00	CARBON	4.7K 5% 1/4W
R322	1-247-837-00	CARBON	1.8K 5% 1/6W	R441	1-247-831-00	CARBON	1K 5% 1/6W
R323	1-247-827-00	CARBON	680 5% 1/6W	R442	1-247-845-00	CARBON	3.9K 5% 1/6W
R324	1-247-831-00	CARBON	1K 5% 1/6W	R443	1-247-823-00	CARBON	470 5% 1/6W
R326	1-247-823-00	CARBON	470 5% 1/6W	R444	1-247-791-00	CARBON	22 5% 1/6W
R327	1-249-421-11	CARBON	2.2K 5% 1/6W	R445	1-247-147-00	CARBON	4.7K 5% 1/4W
R328	1-247-855-00	CARBON	10K 5% 1/6W	R446	1-247-831-00	CARBON	1K 5% 1/6W
R329	1-247-847-00	CARBON	4.7K 5% 1/6W	R447	1-247-845-00	CARBON	3.9K 5% 1/6W
R330	1-247-833-00	CARBON	1.2K 5% 1/6W	R448	1-247-823-00	CARBON	470 5% 1/6W
R332	1-247-823-00	CARBON	470 5% 1/6W	R449	1-247-791-00	CARBON	22 5% 1/6W
R333	1-247-815-00	CARBON	220 5% 1/6W	R450	1-247-147-00	CARBON	4.7K 5% 1/4W
R334	1-247-843-00	CARBON	3.3K 5% 1/6W	R451	1-247-831-00	CARBON	1K 5% 1/6W
R335	1-249-421-11	CARBON	2.2K 5% 1/6W	R452	1-247-847-00	CARBON	4.7K 5% 1/6W
R336	1-247-823-00	CARBON	470 5% 1/6W	R458	1-247-841-00	CARBON	2.7K 5% 1/6W
R337	1-247-827-00	CARBON	680 5% 1/6W	R461	1-247-849-00	CARBON	5.6K 5% 1/6W
R338	1-247-853-00	CARBON	8.2K 5% 1/6W	R464	1-247-827-00	CARBON	680 5% 1/6W
R339	1-247-855-00	CARBON	10K 5% 1/6W	R465	1-247-867-00	CARBON	33K 5% 1/6W
R340	1-249-421-11	CARBON	2.2K 5% 1/6W				
R341	1-247-807-00	CARBON	100 5% 1/6W				
R342	1-247-807-00	CARBON	100 5% 1/6W				
R343	1-247-883-00	CARBON	150K 5% 1/6W				
R344	1-247-855-00	CARBON	10K 5% 1/6W				
R345	1-247-843-00	CARBON	3.3K 5% 1/6W				
R346	1-247-791-00	CARBON	22 5% 1/6W				
R374	1-247-823-00	CARBON	470 5% 1/6W				
R375	1-247-827-00	CARBON	680 5% 1/6W				
R376	1-247-831-00	CARBON	1K 5% 1/6W				

VARIABLE RESISTOR

RV251	1-228-719-00	RES, ADJ, CERAMIC CARBON	470
RV252	1-228-723-00	RES, ADJ, CERAMIC CARBON	4.7K
RV253	1-228-719-00	RES, ADJ, CERAMIC CARBON	470
RV255	1-228-722-00	RES, ADJ, CERAMIC CARBON	3.3K
RV256	1-228-725-00	RES, ADJ, CERAMIC CARBON	22K
RV258	1-224-660-21	RES, ADJ, METAL FILM	1K
RV259	1-224-493-00	RES, ADJ, METAL FILM	10K
RV260	1-224-660-21	RES, ADJ, METAL FILM	1K

BA	BB
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[illegible]

BB

FC

FA

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R460	1-246-463-25	CARBON 390 5% 1/4W		Q672	8-729-204-83	TRANSISTOR 2SA1048GR	
R461	1-247-831-00	CARBON 1K 5% 1/6W				<u>RESISTOR</u>	
R462	1-247-879-00	CARBON 100K 5% 1/6W		R660	1-212-361-00	METAL OXIDE 1.2 5% 1W F	
R463	1-247-107-00	CARBON 100 5% 1/4W		R661	1-247-831-00	CARBON 1K 5% 1/6W	
R465	1-249-421-11	CARBON 2.2K 5% 1/6W		R662	1-247-855-00	CARBON 10K 5% 1/6W	
R466	1-247-863-00	CARBON 22K 5% 1/6W		R664	1-249-421-11	CARBON 2.2K 5% 1/6W	
R467	1-247-852-00	CARBON 7.5K 5% 1/6W		R665	1-247-819-00	CARBON 330 5% 1/6W	
R468	1-247-815-00	CARBON 220 5% 1/6W		R670	1-212-361-00	METAL OXIDE 1.2 5% 1W F	
R469	1-247-873-00	CARBON 56K 5% 1/6W		R671	1-247-831-00	CARBON 1K 5% 1/6W	
R470	1-247-879-00	CARBON 100K 5% 1/6W		R672	1-247-855-00	CARBON 10K 5% 1/6W	
R490	1-247-857-00	CARBON 12K 5% 1/6W		R674	1-249-421-11	CARBON 2.2K 5% 1/6W	
R491	1-247-847-00	CARBON 4.7K 5% 1/6W		R675	1-247-819-00	CARBON 330 5% 1/6W	
		<u>VARIABLE RESISTOR</u>		*****			
RV257	1-226-775-00	RES. ADJ. METAL GLAZE 100K			*1-614-503-11	FA BOARD	
RV265	1-226-773-00	RES. ADJ. METAL GLAZE 22K				*****	
RV266	1-226-775-00	RES. ADJ. METAL GLAZE 100K				<u>CAPACITOR</u>	
*****				C600	1-130-712-00	FILM 0.47MF 20% 250V	
	*1-614-504-11	FC BOARD			*4-316-137-00	COVER, CAPACITOR; C660	
		*****				<u>FUSE</u>	
	3-618-225-00	NUT, PLATE		F601	1-532-237-11	FUSE, TIME-LAG T3.15A/250V	
	*4-026-251-00	SPACER, INSULATING			1-533-087-00	HOLDER, FUSE; F601	
	4-313-734-00	BUSHING TR, Y		F602	1-532-350-11	FUSE, TIME-LAG T4A/250V	
					1-533-087-00	HOLDER, FUSE; F602	
		<u>CAPACITOR</u>				<u>CONNECTOR</u>	
C660	1-161-047-00	CERAMIC 0.0047MF 10% 25V		FA1	*1-508-765-00	3P PLUG (M)	
C670	1-161-047-00	CERAMIC 0.0047MF 10% 25V		FA2	*1-508-786-00	2P PLUG (M)	
		<u>DIODE</u>		FA3	*1-508-786-00	2P PLUG (M)	
D660	8-719-102-84	DIODE RD8.2E-N2		FA4	*1-508-765-00	3P PLUG (M)	
D661	8-719-102-90	DIODE RD10E-N2		FA5	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
D662	8-719-911-19	DIODE 1SS119		FA6	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P	
D663	8-719-911-55	DIODE U05G		FA7	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
D664	8-719-920-40	DIODE ESAC82-004		FA8	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
D670	8-719-102-84	DIODE RD8.2E-N2		FA9	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P	
D671	8-719-102-90	DIODE RD10E-N2		FA10	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
D672	8-719-911-19	DIODE 1SS119		FA11	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
D673	8-719-911-55	DIODE U05G		FA12	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
		<u>CONNECTOR</u>				<u>RESISTOR</u>	
FC1	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P		R600	1-202-724-00	SOLID 2.7M 10% 1/2W	
FC2	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		R601	1-247-824-00	CARBON 510 5% 1/6W	
FC3	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R602	1-247-831-00	CARBON 1K 5% 1/6W	
FC4	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R603	1-247-837-00	CARBON 1.8K 5% 1/6W	
		<u>TRANSISTOR</u>		R604	1-247-289-00	CARBON 8.2M 5% 1W	
Q660	8-729-313-42	TRANSISTOR 2SD1134					
Q661	8-729-204-83	TRANSISTOR 2SA1048GR					
Q662	8-729-204-83	TRANSISTOR 2SA1048GR					
Q670	8-729-313-42	TRANSISTOR 2SD1134					
Q671	8-729-204-83	TRANSISTOR 2SA1048GR					

NOTE:

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

FB

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*A-1245-263-A	FB BOARD, COMPLETE	*****		D624	8-719-911-19	DIODE 1SS119	
*2-430-232-00	INSULATOR (SR12E), TRANSISTOR			D625	8-719-924-06	DIODE ERC24-06S	
*4-374-844-01	HEAT SINK (SRT)			D626	8-719-103-21	DIODE RD20E-N2	
*4-374-845-01	BAND (SRT)			CONNECTOR			
*4-374-846-01	COVER, CAPACITOR, CAP TYPE			FB1	*1-508-765-00	3P PLUG (M)	
*4-374-846-11	COVER, CAPACITOR, CAP TYPE			FB2	*1-564-454-11	PLUG, CONNECTOR (2.5MM) 6P	
CAPACITOR				IC			
C606	A 1-130-808-61	FILM	0.22MF 10% 400V	IC611	8-759-937-59	IC MB3759	
C607	A 1-161-953-51	CERAMIC	0.0047MF 20% 400V	IC612	8-759-729-03	IC NJM2903D	
C608	A 1-161-742-51	CERAMIC	0.0022MF 20% 400V	COIL			
C609	A 1-161-742-51	CERAMIC	0.0022MF 20% 400V	L611	1-408-412-00	MICRO INDUCTOR 18UH	
C610	A 1-161-742-51	CERAMIC	0.0022MF 20% 400V	L612	1-407-365-00	COIL, CHOKE	
C611	A 1-161-742-51	CERAMIC	0.0022MF 20% 400V	TRANSISTOR			
C612	A 1-161-742-51	CERAMIC	0.0022MF 20% 400V	Q610	8-729-802-07	TRANSISTOR 2SD1403-CA	
C613	A 1-161-742-51	CERAMIC	0.0022MF 20% 400V	Q611	8-729-177-43	TRANSISTOR 2SD774	
C614	1-161-742-00	CERAMIC	0.0022MF 20% 400V	Q612	8-729-177-43	TRANSISTOR 2SD774	
C615	A 1-161-742-51	CERAMIC	0.0022MF 20% 400V	Q613	8-729-245-83	TRANSISTOR 2SC2458	
C616	1-123-581-00	ELECT	100MF 20% 400V	Q614	8-729-245-83	TRANSISTOR 2SC2458	
C617	1-136-173-00	FILM	0.47MF 5% 50V	RESISTOR			
C618	1-123-356-00	ELECT	10MF 20% 25V	R611	1-206-676-00	METAL OXIDE 3.3K 5% 2W F	
C619	1-108-587-00	MYLAR	0.022MF 10% 50V	R612	1-247-155-00	CARBON 10K 5% 1/4W	
C620	1-161-328-00	CERAMIC	0.0047MF 30% 50V	R613	1-244-929-00	CARBON 220K 5% 1/2W	
C621	1-123-356-00	ELECT	10MF 20% 16V	R614	1-247-807-00	CARBON 100 5% 1/6W	
C622	1-124-440-11	ELECT	3300MF 20% 25V	R615	1-247-827-00	CARBON 680 5% 1/6W	
C623	1-108-833-00	MYLAR	0.0047MF 10% 50V	R616	1-247-034-00	CARBON 220 5% 1/8W F	
C624	1-123-356-00	ELECT	10MF 20% 25V	R617	1-247-847-00	CARBON 4.7K 5% 1/6W	
C625	1-106-180-00	MYLAR	0.0022MF 10% 50V	R618	1-247-847-00	CARBON 4.7K 5% 1/6W	
C626	1-102-074-00	CERAMIC	0.001MF 10% 50V	R619	1-247-865-00	CARBON 27K 5% 1/6W	
C627	1-123-356-00	ELECT	10MF 20% 16V	R620	1-247-853-00	CARBON 8.2K 5% 1/6W	
C628	1-123-356-00	ELECT	10MF 20% 25V	R621	1-247-847-00	CARBON 4.7K 5% 1/6W	
C629	1-123-381-00	ELECT	2.2MF 20% 50V	R622	1-249-421-11	CARBON 2.2K 5% 1/6W	
C630	1-123-330-00	ELECT	22MF 20% 16V	R623	1-247-879-00	CARBON 100K 5% 1/6W	
C631	1-123-335-00	ELECT	330MF 20% 25V	R624	1-249-421-11	CARBON 2.2K 5% 1/6W	
C632	1-130-806-00	FILM	0.1MF 10% 400V	R625	1-213-135-00	METAL OXIDE 220 5% 1W F	
C633	1-102-074-00	CERAMIC	0.001MF 10% 50V	R627	1-215-443-00	METAL 8.2K 1% 1/6W	
DIODE				R628	1-215-451-00	METAL 18K 1% 1/6W	
D610	8-719-300-63	DIODE LB-156		R629	1-215-447-00	METAL 12K 1% 1/6W	
D611	8-719-924-06	DIODE ERC24-06S		R630	1-247-849-00	CARBON 5.6K 5% 1/6W	
D612	8-719-102-74	DIODE RD6.2E-N2		R631	1-247-849-00	CARBON 5.6K 5% 1/6W	
D613	8-719-901-93	DIODE V19E		R632	1-215-429-00	METAL 2.2K 1% 1/6W	
D614	8-719-911-19	DIODE 1SS119		R633	1-215-401-11	METAL 150 1% 1/6W	
D615	8-719-908-20	DIODE ERC88-009		R634	1-215-429-00	METAL 2.2K 1% 1/6W	
D616	8-719-102-90	DIODE RD10E-N2		R635	1-247-855-00	CARBON 10K 5% 1/6W	
D617	8-719-102-74	DIODE RD6.2E-N2		R636	1-247-855-00	CARBON 10K 5% 1/6W	
D618	8-719-911-19	DIODE 1SS119		R637	1-247-879-00	CARBON 100K 5% 1/6W	
D619	8-729-101-31	TRANSISTOR N13T1		R638	1-247-847-00	CARBON 4.7K 5% 1/6W	
D620	8-719-911-19	DIODE 1SS119		R639	1-247-843-00	CARBON 3.3K 5% 1/6W	
D621	8-719-911-19	DIODE 1SS119		R640	1-247-855-00	CARBON 10K 5% 1/6W	
D622	8-719-911-19	DIODE 1SS119					
D623	8-719-911-19	DIODE 1SS119					

NOTE:

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

FB

Q

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R641	1-249-421-11	CARBON 2.2K 5% 1/6W		C219	1-123-356-00	ELECT 10MF 20% 25V	
R642	1-247-867-00	CARBON 33K 5% 1/6W		C220	1-123-356-00	ELECT 10MF 20% 25V	
R643	1-247-847-00	CARBON 4.7K 5% 1/6W		C221	1-101-006-21	CERAMIC 0.047MF 50V	
R644	1-247-847-00	CARBON 4.7K 5% 1/6W		C222	1-123-321-00	ELECT 220MF 20% 16V	
R645	1-247-034-00	CARBON 220 5% 1/8W	F	C223	1-123-321-00	ELECT 220MF 20% 16V	
R646	1-247-825-00	CARBON 560 5% 1/6W		C224	1-123-333-00	ELECT 100MF 20% 16V	
R647	1-205-636-11	CEMENTED 3.3 5% 5W	F	C225	1-123-318-00	ELECT 33MF 20% 16V	
R648	1-213-160-00	METAL OXIDE 27K 5% 1W	F	C226	1-123-318-00	ELECT 33MF 20% 16V	
R649	1-213-160-00	METAL OXIDE 27K 5% 1W	F	C228	1-102-129-21	CERAMIC 0.01MF 10% 50V	
R650	1-247-847-00	CARBON 4.7K 5% 1/6W		C229	1-123-380-00	ELECT 1MF 20% 50V	
R651	1-247-831-00	CARBON 1K 5% 1/6W		C230	1-102-824-00	CERAMIC 470PF 5% 50V	
VARIABLE RESISTOR				C231	1-101-004-00	CERAMIC 0.01MF 50V	
RV610	1-230-231-11	RES, ADJ, CERAMIC CARBON 2.2K		C232	1-123-330-00	ELECT 22MF 20% 25V	
RV611	1-230-230-00	RES, ADJ, CERAMIC CARBON 1K		C240	1-102-822-00	CERAMIC 390PF 5% 50V	
RELAY				DIODE			
RY610	1-515-559-11	RELAY, POWER		D201	8-719-100-65	DIODE RD12E-B2	
TRANSFORMER				D202	8-719-911-19	DIODE 1SS119	
T609	1-421-760-11	LFT		D203	8-719-100-65	DIODE RD12E-B2	
T610	1-421-760-11	LFT		D204	8-719-911-19	DIODE 1SS119	
T611	1-448-146-11	TRANSFORMER, CONVERTER (S.R.T)		D205	8-719-911-19	DIODE 1SS119	
T612	1-437-173-11	TRANSFORMER, DRIVE		IC			
VARISTOR				IC201	8-752-006-10	IC CX20061	
VDR610	1-807-181-11	VARISTOR SNR-14A420K		IC202	8-759-400-01	IC AN5250	
*****				CONNECTOR			
*A-1270-160-A Q BOARD, COMPLETE				Q1	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P	
*****				Q2	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
4-308-030-00 WASHER				Q3	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
CAPACITOR				Q4	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
C201	1-123-333-00	ELECT 100MF 20% 25V		Q5	1-562-212-00	CONNECTOR, DIN 6P	
C202	1-101-006-21	CERAMIC 0.047MF 50V		Q6	1-536-899-11	TERMINAL BOARD, INPUT/OUTPUT	
C203	1-123-356-00	ELECT 10MF 20% 25V		TRANSISTOR			
C204	1-123-318-00	ELECT 33MF 20% 16V		Q201	8-729-245-83	TRANSISTOR 2SC2458	
C205	1-123-318-00	ELECT 33MF 20% 16V		Q202	8-729-245-83	TRANSISTOR 2SC2458	
C206	1-123-333-00	ELECT 100MF 20% 25V		Q203	8-729-245-83	TRANSISTOR 2SC2458	
C208	1-123-356-00	ELECT 10MF 20% 25V		Q204	8-729-204-83	TRANSISTOR 2SA1048GR	
C209	1-123-318-00	ELECT 33MF 20% 16V		Q205	8-729-204-83	TRANSISTOR 2SA1048GR	
C210	1-123-356-00	ELECT 10MF 20% 25V		Q206	8-729-177-43	TRANSISTOR 2SD774	
C211	1-101-006-21	CERAMIC 0.047MF 50V		Q207	8-729-245-83	TRANSISTOR 2SC2458	
C212	1-101-006-21	CERAMIC 0.047MF 50V		Q208	8-729-245-83	TRANSISTOR 2SC2458	
C213	1-123-380-00	ELECT 1MF 20% 50V		RESISTOR			
C214	1-123-380-00	ELECT 1MF 20% 50V		R201	1-215-394-00	METAL 75 1% 1/6W	
C215	1-123-334-00	ELECT 220MF 20% 25V		R202	1-247-131-00	CARBON 1K 5% 1/4W	
C217	1-101-006-21	CERAMIC 0.047MF 50V		R203	1-247-875-00	CARBON 68K 5% 1/6W	
C218	1-123-382-00	ELECT 3.3MF 20% 50V		R204	1-247-873-00	CARBON 56K 5% 1/6W	
				R205	1-247-831-00	CARBON 1K 5% 1/6W	
				R206	1-247-807-00	CARBON 100 5% 1/6W	
				R207	1-247-875-00	CARBON 68K 5% 1/6W	
				R208	1-215-394-00	METAL 75 1% 1/6W	

NOTE:

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Q

C

DC

Ref.No.	Part No.	Description	Remark
R209	1-247-131-00	CARBON 1K 5% 1/4W	
R210	1-247-873-00	CARBON 56K 5% 1/6W	
R211	1-247-807-00	CARBON 100 5% 1/6W	
R212	1-247-831-00	CARBON 1K 5% 1/6W	
R213	1-247-831-00	CARBON 1K 5% 1/6W	
R214	1-247-799-00	CARBON 47 5% 1/6W	
R215	1-247-849-00	CARBON 5.6K 5% 1/6W	
R216	1-247-843-00	CARBON 3.3K 5% 1/6W	
R217	1-247-855-00	CARBON 10K 5% 1/6W	
R218	1-247-893-00	CARBON 390K 5% 1/6W	
R219	1-247-889-00	CARBON 270K 5% 1/6W	
R220	1-247-889-00	CARBON 270K 5% 1/6W	
R221	1-247-855-00	CARBON 10K 5% 1/6W	
R222	1-247-855-00	CARBON 10K 5% 1/6W	
R223	1-247-893-00	CARBON 390K 5% 1/6W	
R224	1-247-889-00	CARBON 270K 5% 1/6W	
R225	1-247-889-00	CARBON 270K 5% 1/6W	
R226	1-247-831-00	CARBON 1K 5% 1/6W	
R227	1-249-421-11	CARBON 2.2K 5% 1/6W	
R228	1-247-841-00	CARBON 2.7K 5% 1/6W	
R229	1-247-799-00	CARBON 47 5% 1/6W	
R230	1-246-981-00	CARBON 4.7 5% 1/8W F	
R232	1-247-823-00	CARBON 470 5% 1/6W	
R233	1-247-823-00	CARBON 470 5% 1/6W	
R234	1-247-879-00	CARBON 100K 5% 1/6W	
R235	1-247-807-00	CARBON 100 5% 1/6W	
R236	1-247-849-00	CARBON 5.6K 5% 1/6W	
R237	1-247-876-00	CARBON 75K 5% 1/6W	
R238	1-247-849-00	CARBON 5.6K 5% 1/6W	
R239	1-247-876-00	CARBON 75K 5% 1/6W	
R240	1-212-851-00	FUSIBLE 5.6 5% 1/4W F	
R241	1-247-831-00	CARBON 1K 5% 1/6W	
R242	1-217-477-00	FUSIBLE 4.7 5% 1W F	
SWITCH			
S1	1-553-725-00	SWITCH, SLIDE	
S2	1-553-725-00	SWITCH, SLIDE	

*A-1330-584-A C BOARD, COMPLETE			

1-526-691-00 SOCKET, CRT			
CONNECTOR			
C1	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P	
C2	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
C3	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
C4	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
CAPACITOR			
C701	1-102-223-00	CERAMIC 0.0047MF 10% 2KV	
C703	1-102-050-00	CERAMIC 0.01MF 500V	

Ref.No.	Part No.	Description	Remark
C704	1-123-933-00	ELECT 10MF 20% 160V	
COIL			
L701	1-407-704-00	MICRO INDUCTOR 82UH	
L702	1-407-709-00	MICRO INDUCTOR 220UH	
NEON LAMP			
NE702	1-519-013-13	DISCHARGE TUBE	
NE703	1-519-013-13	DISCHARGE TUBE	
NE704	1-519-013-13	DISCHARGE TUBE	
NL701	1-519-108-XX	LAMP, NEON ASSY	
TRANSISTOR			
Q701	8-729-326-11	TRANSISTOR 2SC2611	
Q702	8-729-326-11	TRANSISTOR 2SC2611	
Q703	8-729-326-11	TRANSISTOR 2SC2611	
RESISTOR			
R701	1-202-842-11	SOLID 220K 10% 1/2W	
R702	1-202-719-00	SOLID 1M 10% 1/2W	
R703	1-202-838-00	SOLID 100K 10% 1/2W	
R706	1-213-156-00	METAL OXIDE 12K 5% 1W F	
R707	1-247-815-00	CARBON 220 5% 1/6W	
R709	1-202-822-00	SOLID 2.2K 10% 1/2W	
R710	1-213-156-00	METAL OXIDE 12K 5% 1W F	
R711	1-202-822-00	SOLID 2.2K 10% 1/2W	
R712	1-247-815-00	CARBON 220 5% 1/6W	
R714	1-213-156-00	METAL OXIDE 12K 5% 1W F	
R715	1-202-822-00	SOLID 2.2K 10% 1/2W	
R716	1-247-815-00	CARBON 220 5% 1/6W	
VARIABLE RESISTOR			
RV701	1-230-164-21	RES, ADJ, METAL GLAZE 55M	
SPARK GAP			
SG701	1-519-063-XX	DISCHARGING GAP	

*1-614-498-11 DC BOARD			

CAPACITOR			
C890	1-123-332-00	ELECT 47MF 20% 16V	
C891	1-130-794-00	FILM 0.22MF 10% 250V	
C892	1-130-800-00	FILM 2.2MF 10% 250V	
DIODE			
D890	8-719-102-74	DIODE RD6.2E-N2	
D891	8-719-000-28	THYRISTOR CRO2AM-8	
D892	8-719-911-55	DIODE U05G	

DC

DD

DB

DA

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
<u>CONNECTOR</u>							
DC1	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		C807	1-123-356-00	ELECT 10MF 20% 16V	
DC2	*1-560-278-00	PLUG, CONNECTOR 3P		C808	1-123-382-00	ELECT 3.3MF 20% 50V	
<u>TRANSISTOR</u>				C809	1-123-380-00	ELECT 1MF 20% 50V	
Q890	8-765-620-00	TRANSISTOR 2SD1015		C810	1-161-059-00	CERAMIC 0.047MF 10% 50V	
<u>RESISTOR</u>				C811	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
R895	1-202-846-00	SOLID 470K 1/2W		C812	1-123-380-00	ELECT 1MF 20% 50V	
R896	1-247-871-00	CARBON 47K 5% 1/6W		C813	1-123-356-00	ELECT 10MF 20% 16V	
R898	1-247-817-00	CARBON 270 5% 1/6W		C814	1-124-539-51	ELECT 330MF 20% 35V	
R899	1-247-839-00	CARBON 2.2K 5% 1/8W F		C815	1-129-706-51	FILM 0.0022MF 10% 630V	
R900	1-246-517-25	CARBON 68K 5% 1/4W		C816	1-130-581-11	FILM 0.033MF 3% 600V	
*****				C817	1-129-706-51	FILM 0.0022MF 10% 630V	
	*1-615-160-11	DD BOARD		C820	1-123-335-00	ELECT 330MF 20% 25V	
		*****		C822	1-102-030-00	CERAMIC 330PF 10% 500V	
	*1-564-451-11	PLUG, CONNECTOR (2.5MM) 3P		C823	1-123-347-00	ELECT 330MF 20% 35V	
<u>CAPACITOR</u>				C824	1-102-030-51	CERAMIC 330PF 10% 500V	
C870	1-161-328-00	CERAMIC 0.0047MF 30% 50V		C825	1-123-933-00	ELECT 10MF 20% 160V	
<u>IC</u>				C826	1-123-356-00	ELECT 10MF 20% 25V	
IC805	8-759-170-12	IC UPC78M12H		C828	1-130-781-00	FILM 0.22MF 10% 100V	
*****				C830	1-123-356-00	ELECT 10MF 20% 16V	
	*1-614-502-11	DB BOARD		C831	1-108-591-00	MYLAR 0.033MF 10% 50V	
		*****		C832	1-108-591-00	MYLAR 0.033MF 10% 50V	
<u>CONNECTOR</u>				C833	1-123-380-00	ELECT 1MF 20% 50V	
DB1	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C834	1-136-173-00	FILM 0.47MF 5% 50V	
DB2	*1-564-445-11	PLUG, CONNECTOR (2.5MM) 9P		C835	1-123-322-00	ELECT 330MF 20% 16V	
<u>TRANSFORMER</u>				C836	1-124-245-00	ELECT 4.7MF 20% 25V	
T801	1-439-358-11	TRANSFORMER ASSY, FLYBACK		C837	1-123-379-00	ELECT 0.47MF 20% 50V	
*****				C838	1-108-837-00	MYLAR 0.01MF 10% 50V	
	*A-1345-522-A	DA BOARD, COMPLETE		C839	1-108-845-00	MYLAR 0.047MF 10% 50V	
		*****		C840	1-102-832-00	CERAMIC 330PF 10% 50V	
	3-701-833-01	HEAD, WASHER, TAPPING SCREW		C841	1-123-360-00	ELECT 100MF 20% 50V	
<u>CAPACITOR</u>				C842	1-123-335-00	ELECT 330MF 20% 25V	
C800	1-123-380-00	ELECT 1MF 20% 50V		C843	1-108-837-00	MYLAR 0.01MF 10% 50V	
C801	1-108-599-00	MYLAR 0.068MF 10% 50V		C844	1-102-030-51	CERAMIC 330PF 10% 500V	
C802	1-108-837-00	MYLAR 0.01MF 10% 50V		C845	1-136-337-11	FILM 3.3MF 10% 100V	
C803	1-108-837-00	MYLAR 0.01MF 10% 50V		C846	1-124-245-00	ELECT 4.7MF 20% 25V	
C804	1-123-369-00	ELECT 4.7MF 20% 25V		C850	1-123-356-00	ELECT 10MF 20% 25V	
C805	1-123-369-00	ELECT 4.7MF 20% 25V		C851	1-106-176-00	MYLAR 0.0015MF 5% 50V	
C806	1-130-868-00	FILM 0.0056MF 5% 50V		C853	1-106-180-00	MYLAR 0.0022MF 5% 50V	
				C854	1-102-529-00	CERAMIC 100PF 5% 50V	
				C855	1-123-356-00	ELECT 10MF 20% 16V	
				C856	1-102-973-00	CERAMIC 100PF 10% 50V	
				C857	1-102-038-51	CERAMIC 0.001MF 10% 500V	
				C860	1-123-381-00	ELECT 2.2MF 20% 50V	
				C862	1-102-074-00	CERAMIC 0.001MF 10% 50V	
				C863	1-123-380-00	ELECT 1MF 20% 50V	
				C864	1-124-537-51	ELECT 1200MF 20% 35V	
				C866	1-102-074-00	CERAMIC 0.001MF 10% 50V	
				C867	1-101-002-00	CERAMIC 0.0022MF 10% 50V	
				<u>DIODE</u>			
				D800	8-719-102-74	DIODE RD6.2E-N2	
				D801	8-719-911-19	DIODE 1SS119	
				D803	8-719-300-76	DIODE RH1A	

NOTE:

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DA

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
D804	8-719-300-76	DIODE RH1A		<u>TRANSISTOR</u>			
D805	8-719-901-95	DIODE V19C55		Q800	8-729-245-83	TRANSISTOR 2SC2458	
D806	8-719-901-93	DIODE V19E		Q801	8-729-201-62	TRANSISTOR 2SC2555	
D807	8-719-901-93	DIODE V19E			*4-363-404-00	HOLDER, IC; Q801	
D808	8-719-901-93	DIODE V19E			4-363-414-00	SPACER, MICA; Q801	
D809	8-719-911-55	DIODE U05G		Q802	8-729-201-XX	TRANSISTOR 2SC3075	
D810	8-719-911-19	DIODE 1SS119		Q803	8-729-245-83	TRANSISTOR 2SC2458	
D811	8-719-911-19	DIODE 1SS119		Q804	8-729-245-83	TRANSISTOR 2SC2458	
D812	8-719-911-19	DIODE 1SS119		Q805	8-729-245-83	TRANSISTOR 2SC2458	
D813	8-719-911-19	DIODE 1SS119		Q806	8-729-245-83	TRANSISTOR 2SC2458	
D814	8-719-911-19	DIODE 1SS119		Q807	8-729-204-83	TRANSISTOR 2SA1048GR	
D815	8-719-911-19	DIODE 1SS119		Q808	8-729-245-83	TRANSISTOR 2SC2458	
D816	8-719-901-83	DIODE 1SS83		Q809	8-729-133-43	TRANSISTOR 2SC2334-K	
D817	8-719-911-19	DIODE 1SS119		<u>RESISTOR</u>			
D818	8-719-911-19	DIODE 1SS119		R800	1-247-855-00	CARBON 10K 5%	1/6W
D819	8-719-911-19	DIODE 1SS119		R801	1-247-850-00	CARBON 6.2K 5%	1/6W
D820	8-719-911-19	DIODE 1SS119		R802	1-247-855-00	CARBON 10K 5%	1/6W
D821	8-719-102-74	DIODE RD6.2E-N2		R803	1-247-877-00	CARBON 82K 5%	1/6W
D822	8-719-103-21	DIODE RD20E-N2		R804	1-247-857-00	CARBON 12K 5%	1/6W
D823	8-719-911-19	DIODE 1SS119		R805	1-247-831-00	CARBON 1K 5%	1/6W
D824	8-719-102-61	DIODE RD4.3E-N1		R807	1-247-851-00	CARBON 6.8K 5%	1/6W
D825	8-719-000-28	THYRISTOR CRO2AM-8		R808	1-247-851-00	CARBON 6.8K 5%	1/6W
D826	8-719-981-00	DIODE ERC81-004		R809	1-247-827-00	CARBON 680 5%	1/6W
D827	8-719-981-00	DIODE ERC81-004		R810	1-247-827-00	CARBON 680 5%	1/6W
<u>CONNECTOR</u>				R811	1-247-827-00	CARBON 680 5%	1/6W
DA1	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		R812	1-206-648-00	METAL OXIDE 220 5%	2W F
DA2	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		R813	1-212-360-00	METAL OXIDE 1 5%	1W F
DA3	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		R815	1-247-851-00	CARBON 6.8K 5%	1/6W
DA4	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		R816	1-247-855-00	CARBON 10K 5%	1/6W
DA5	*1-508-765-00	3P PLUG (M)		R818	1-247-855-00	CARBON 10K 5%	1/6W
DA6	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R819	1-215-461-00	METAL 47K 1%	1/6W
DA7	*1-564-445-11	PLUG, CONNECTOR (2.5MM) 9P		R820	1-215-449-00	METAL 15K 1%	1/6W
DA8	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R821	1-247-879-00	CARBON 100K 5%	1/6W
<u>IC</u>				R822	1-213-143-00	METAL OXIDE 1K 5%	1W F
IC800	8-759-100-60	IC UPC1377C		R824	1-217-383-00	FUSIBLE 4.7 5%	1/4W F
IC801	8-759-113-78	IC UPC1378H-L		R825	1-210-859-00	CARBON 1.2 5%	1/8W F
IC802	8-759-145-58	IC UPC4558C		R826	1-215-445-00	METAL 10K 1%	1/6W
IC803	8-759-240-30	IC TC4030BP		R827	1-213-149-00	METAL OXIDE 3.3K 5%	1W F
IC804	8-759-345-38	IC HD14538BP		R828	1-213-149-00	METAL OXIDE 3.3K 5%	1W F
<u>COIL</u>				R829	1-213-149-00	METAL OXIDE 3.3K 5%	1W F
L800	1-408-242-00	MICRO INDUCTOR 10MMH		R830	1-247-855-00	CARBON 10K 5%	1/6W
L802	1-408-403-00	MICRO INDUCTOR 3.3UH		R831	1-247-855-00	CARBON 10K 5%	1/6W
L803	1-459-370-11	COIL, FERRITE (HLC)		R832	1-247-851-00	CARBON 6.8K 5%	1/6W
L804	1-459-597-11	COIL, VARIABLE		R833	1-247-863-00	CARBON 22K 5%	1/6W
L805	1-459-403-00	COIL (WITH CORE)		R834	1-247-859-00	CARBON 15K 5%	1/6W
L806	1-408-423-00	MICRO INDUCTOR 150UH		R835	1-247-855-00	CARBON 10K 5%	1/6W
L807	1-459-595-11	COIL, CHOKE		R836	1-247-871-00	CARBON 47K 5%	1/6W
L810	1-407-365-00	COIL, CHOKE		R837	1-247-831-00	CARBON 1K 5%	1/6W
				R838	1-247-824-00	CARBON 510 5%	1/6W
				R839	1-247-852-00	CARBON 7.5K 5%	1/6W
				R840	1-247-863-00	CARBON 22K 5%	1/6W

NOTE:

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

DA HA

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R842	1-247-855-00	CARBON 10K 5% 1/6W		RV807	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K	
R843	1-247-865-00	CARBON 27K 5% 1/6W		RV808	1-226-703-00	RES, ADJ, METAL GLAZE 10K	
R844	1-247-817-00	CARBON 270 5% 1/6W				RELAY	
R845	1-212-368-00	METAL OXIDE 4.7 5% 1W	F			RY800 1-515-380-00	RELAY
R846	1-213-138-00	METAL OXIDE 390 5% 1W	F			TRANSFORMER	
R847	1-213-138-00	METAL OXIDE 390 5% 1W	F			T800 A.1-437-082-11	HDT
R848	1-213-139-00	METAL OXIDE 470 5% 1W	F			T802 A.1-437-081-11	TRANSFORMER, CDT
R849	1-247-848-00	CARBON 5.1K 5% 1/6W				*****	
R850	1-247-855-00	CARBON 10K 5% 1/6W				*1-614-941-11	HA BOARD
R851	1-247-855-00	CARBON 10K 5% 1/6W				*****	
R852	1-247-819-00	CARBON 330 5% 1/8W	F			CAPACITOR	
R853	1-247-831-00	CARBON 1K 5% 1/6W		C504	1-123-332-00	ELECT 47MF 20% 25V	
R855	1-215-434-00	METAL 3.6K 1% 1/6W		C505	1-101-004-00	CERAMIC 0.01MF 50V	
R856 A.1-215-455-31	METAL 27K 1% 1/6W					DIODE	
R860	1-247-847-00	CARBON 4.7K 5% 1/6W				O502 8-719-911-19	DIODE 1SS119
R861	1-247-847-00	CARBON 4.7K 5% 1/6W				CONNECTOR	
R862	1-247-867-00	CARBON 33K 5% 1/6W		HA1	*1-564-451-11	PLUG, CONNECTOR (2.5MM) 3P	
R863	1-247-831-00	CARBON 1K 5% 1/6W		HA2	*1-564-452-11	PLUG, CONNECTOR (2.5MM) 4P	
R864	1-247-879-00	CARBON 100K 5% 1/6W		HA3	*1-564-451-11	PLUG, CONNECTOR (2.5MM) 3P	
R866	1-247-855-00	CARBON 10K 5% 1/6W		HA4	*1-564-451-11	PLUG, CONNECTOR (2.5MM) 3P	
R867	1-215-433-00	METAL 3.3K 1% 1/6W		HA5	*1-564-452-41	PLUG, CONNECTOR (2.5MM) 4P	
R868	1-247-871-00	CARBON 47K 5% 1/6W		HA6	*1-564-456-11	PLUG, CONNECTOR (2.5MM) 8P	
R869	1-247-871-00	CARBON 47K 5% 1/6W		HA7	*1-564-450-11	PLUG, CONNECTOR (2.5MM) 2P	
R870	1-215-469-00	METAL 100K 1% 1/6W				TRANSISTOR	
R871	1-247-895-00	CARBON 470K 5% 1/6W		Q502	8-729-245-83	TRANSISTOR 2SC2458	
R872	1-247-889-00	CARBON 270K 5% 1/6W		Q503	8-729-245-83	TRANSISTOR 2SC2458	
R873	1-247-831-00	CARBON 1K 5% 1/6W				RESISTOR	
R874	1-247-847-00	CARBON 4.7K 5% 1/6W		R512	1-247-863-00	CARBON 22K 5% 1/6W	
R876	1-215-427-00	METAL 1.8K 1% 1/6W		R514	1-247-867-00	CARBON 33K 5% 1/6W	
R877	1-247-847-00	CARBON 4.7K 5% 1/6W		R515	1-247-883-00	CARBON 150K 5% 1/6W	
R879	1-247-803-00	CARBON 68 5% 1/6W		R516	1-247-867-00	CARBON 33K 5% 1/6W	
R880	1-215-452-00	METAL 20K 1% 1/6W		R517	1-247-887-00	CARBON 220K 5% 1/6W	
R881 A.1-215-459-31	METAL 39K 1% 1/6W			R518	1-247-867-00	CARBON 33K 5% 1/6W	
R882	1-215-441-00	METAL 6.8K 1% 1/6W		R519	1-247-873-00	CARBON 56K 5% 1/6W	
R883	1-247-863-00	CARBON 22K 5% 1/6W		R520	1-247-854-00	CARBON 9.1K 5% 1/6W	
R884	1-247-860-00	CARBON 16K 5% 1/6W		R521	1-249-421-11	CARBON 2.2K 5% 1/6W	
R885	1-247-852-00	CARBON 7.5K 5% 1/6W		R522	1-247-891-00	CARBON 330K 5% 1/6W	
R886	1-247-852-00	CARBON 7.5K 5% 1/6W		R523	1-247-831-00	CARBON 1K 5% 1/6W	
R888	1-247-847-00	CARBON 4.7K 5% 1/6W		R524	1-247-879-00	CARBON 100K 5% 1/6W	
R890	1-247-831-00	CARBON 1K 5% 1/6W		R525	1-247-871-00	CARBON 47K 5% 1/6W	
R891	1-247-851-00	CARBON 6.8K 5% 1/6W		R526	1-247-873-00	CARBON 56K 5% 1/6W	
R892	1-249-421-11	CARBON 2.2K 5% 1/6W		R527	1-247-881-00	CARBON 120K 5% 1/6W	
R893	1-247-837-00	CARBON 1.8K 5% 1/8W	F	R528	1-247-878-00	CARBON 91K 5% 1/6W	
R894	1-247-807-00	CARBON 100 5% 1/6W					
		VARIABLE RESISTOR					
RV800	1-230-522-11	RES, ADJ, METAL GLAZE 4.7K					
RV801	1-230-522-11	RES, ADJ, METAL GLAZE 4.7K					
RV802	1-228-720-00	RES, ADJ, CERAMIC CARBON 1K					
RV803	1-228-717-00	RES, ADJ, CERAMIC CARBON 220					
RV804	1-224-249-XX	RES, ADJ, METAL GLAZE 1K					
RV805	1-223-102-00	RES, ADJ, WIREWOUND 120					
RV806	1-228-727-00	RES, ADJ, CERAMIC CARBON 47K					

NOTE:

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

HA HB XA

Ref.No.	Part No.	Description	Remark
R529	1-247-855-00	CARBON 10K 5% 1/6W	
R531	1-247-835-00	CARBON 1.5K 5% 1/6W	
VARIABLE RESISTOR			
RV511	1-230-760-11	RES, VAR, CARBON 1K	
RV512	1-230-762-11	RES, VAR, CARBON 20K	
RV513	1-230-711-11	RES, VAR, CARBON 20K	
RV514	1-230-711-11	RES, VAR, CARBON 20K	
RV515	1-230-710-11	RES, VAR, CARBON 10K	
RV516	1-230-710-11	RES, VAR, CARBON 10K	
RV517	1-226-703-00	RES, ADJ, METAL GLAZE 10K	
RV518	1-230-522-11	RES, ADJ, METAL GLAZE 4.7K	
RV519	1-226-774-00	RES, ADJ, METAL GLAZE 47K	

THERMISTOR

TH502	1-800-944-00	THERMISTOR TH-4700	
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*1-614-942-11 HB BOARD

*4-337-424-00 HOLDER (L), LED
*4-374-809-01 HOLDER (3 GANG), LED

DIODE

D503	8-719-812-31	DIODE TLR123	
D504	8-719-812-32	DIODE TLY123	
D505	8-719-812-32	DIODE TLY123	
D506	8-719-812-32	DIODE TLY123	
D507	8-719-812-32	DIODE TLY123	

CONNECTOR

HB2	*1-564-450-11	PLUG, CONNECTOR (2.5MM) 2P	
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SWITCH

S505	1-554-118-00	SWITCH, PUSH (1 KEY)	
S506	1-554-118-00	SWITCH, PUSH (1 KEY)	
S507	1-554-118-00	SWITCH, PUSH (1 KEY)	
S508	1-554-118-00	SWITCH, PUSH (1 KEY)	
S509	1-554-118-00	SWITCH, PUSH (1 KEY)	

*1-614-496-11 XA BOARD

*4-337-424-00 HOLDER (L), LED

DIODE

D680	8-719-812-33	DIODE TLG123A	
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Ref.No.	Part No.	Description	Remark
MISCELLANEOUS *****			
A.1-451-265-11	1-452-032-00	DEFLECTION YOKE (SY-167)	
	1-452-094-00	MAGNET, DISK; 10MM Ø	
	1-452-126-11	MAGNET, ROTATABLE DISK; 15MM Ø	
	1-507-465-00	MAGNET	
		JACK, POWER OUTSIDE	
A.1-509-547-11	1-543-171-00	3P INLET	
		CORE, RING	
L901 A.1-426-043-12		COIL, DEGAUSSING	
S901 A.1-570-201-11		SWITCH, PUSH (AC POWER)(1 KEY)	
S902 A.1-516-046-11		SWITCH, SLIDE	
SP901	1-502-509-00	SPEAKER	
V901 A.8-737-151-05		CRT (A20JKU10X)	

ACCESSORIES AND PACKING MATERIALS

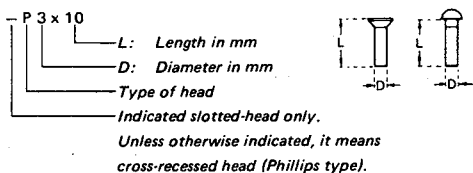
Part No.	Description	Remark
A.1-551-258-11	CORD, POWER	
3-548-372-00	BAG, POLYETHYLENE	
3-701-630-00	BAG, POLYETHYLENE	
4-374-831-01	HOOD (VF-501)	
4-374-842-01	INDIVIDUAL CARTON	
4-374-848-01	CUSHION (UPPER) (ASSY)	
4-374-849-01	CUSHION (LOWER) (ASSY)	
4-482-062-11	MANUAL, INSTRUCTION	

NOTE:

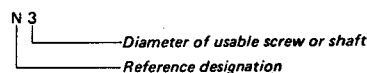
The components identified by shading and mark A are critical for safety. Replace only with part number specified.

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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